

Medical Library

JUL 6 1945

# THE AMERICAN JOURNAL *of* PSYCHIATRY

VOLUME 101  
NUMBER 6  
MAY 1945

*Official Organ of*  
THE AMERICAN  
PSYCHIATRIC  
ASSOCIATION



*R*  
*Elixir Alurate*

A sedative-hypnotic that induces calm, restful sleep of normal duration with little likelihood of "hangover" upon awakening—

that's Elixir Alurate 'Roche,' and that is why so many thousands of physicians have learned to depend on Elixir Alurate as a "sedative-hypnotic of rare quality." In therapeutic doses, Alurate, allyl-isopropyl-barbituric acid, does not depress circulation or respiration. Most of the dose is rapidly inactivated in the system and the remainder is so promptly eliminated that likelihood of "hangover" or cumulative effect is greatly reduced. Elixir Alurate 'Roche' is supplied in 6-ounce and 1-gallon bottles. Alurate Tablets are issued in tubes of 12 and bottles of 50. HOFFMANN-LA ROCHE, INC. • ROCHE PARK • NUTLEY, NEW JERSEY

FOR CALM, RESTFUL SLEEP



## PSYCHIATRY AND THE U. S. NAVY<sup>1</sup>

VICE ADMIRAL ROSS T. McINTIRE, U.S.N. \*

*Surgeon General, U. S. Navy*

It is with a sense of real appreciation that I come before this organization today representing the Medical Department of the Navy. The Navy Department has had a close and satisfactory association with your society through all the hundred years. You will remember that the Navy recognized the Bureau of Medicine and Surgery but two years before your organization was founded. It is interesting to look back over the medical history and observe the various trends and improvements made in the care of the mentally ill. We cannot look with a great deal of pride on the days when mesmerism and hypnotism were our principal means of treatment for these unfortunates.

When this society was founded, psychiatrists were concerned only with psychotic patients and these were confined in mental hospitals. For many years the individual who lived close to the borderline was given very little thought. In fact, in many instances, he was so poorly handled that he was driven across that borderline and into the field of the psychoses. And so throughout many decades we neglected the psychoneurotic, the maladjusted and the prepsychotic.

Reviewing the history of the military field we cannot point with a great deal of pride to the work that was done in the Civil War. A very interesting note was made by the then Surgeon General of the Navy, P. J. Horwitz, in which he reported that in all the Navy there were four mentally ill officers, five seamen, one marine, one landsman and one pensioner—twelve in all who were under treatment in a government mental hospital near Washington.

There is no question but that the neuropsychiatric cases were there, and unquestionably in a like percentage to those we see today, but they were masked undoubtedly under some other diagnosis.

World War Number One revealed for the first time the tremendous number of men who displayed neuropsychiatric symptoms of a fixed nature and we were greatly troubled at that time because we were unable to return these men to a normal life in their own communities. In the ensuing years psychiatry has made tremendous advances in methods of diagnosis and in means of treatment.

The Bureau of Medicine and Surgery foresaw the psychiatric problems which would accompany war even before this war started, and for that reason initiated psychiatric screening along with physical screening in the training stations. Prior to this war, approximately 20 to 25 medical officers in the regular Navy had specialized in psychiatry and were doing psychiatric work. It was at once recognized that this number would be too small to cope with the vast problem which was in the offing. A survey was made of civilian psychiatrists under the direction of the National Research Council in cooperation with The American Psychiatric Association, and efforts were made to attract civilian psychiatrists to the service. The Surgeon General also brought neuropsychiatrists into the Bureau of Medicine and Surgery in order to help initiate the neuropsychiatric screening programs and advise on medico-legal matters in which psychiatry was involved. He later instituted the Neuropsychiatric Branch in the Bureau of Medicine and Surgery, which has grown to its present form. At the same time the Surgeon General sought a consultant in neuropsychiatry to add to his staff of honorary consultants and selected the President of The American Psychiatric Society, Dr. Edward A. Strecker. Dr. Strecker's ability was well-known and was recognized by all of his colleagues. His willingness to give of his time and advice and to help with the various intricate problems which arise have been of inestimable value.

Civilian neuropsychiatrists have been of

<sup>1</sup> Read at the Centenary Meeting of The American Psychiatric Association, Philadelphia, Pa., May 15-18, 1944.

great assistance to the Navy as witnessed by the work of the school training psychiatrists which is maintained in Philadelphia under the guidance of the various medical faculties and under the direction of Dr. Strecker. It is only because of this school and the one located in Washington that the Navy has been able to train a sufficient number of psychiatrists to carry on the necessary work. After the medical officer completes his instruction in the training courses, he is detailed to one of the various naval installations where he will be under the watchful eye of a capable senior. Thus it is a mutual interchange. The civilians help the Navy to train psychiatrists and the Navy interests young medical officers in this specialty and gives them a good start in their training for a future psychiatric career.

During the early part of the war, the Navy continued its method of voluntary enlistment. Even under that system we found that our screening methods at our training stations were disclosing a great many young men who were judged unfit by our psychiatric standards. But when we turn to the method of selective service, we found that our screening methods were doubly necessary, for here we would accept men with lower physical standards, and consequently men who needed to be carefully observed before they were taken into the naval service.

There was a great deal of criticism of the Navy in that it was felt that the screening done at the induction centers was all that was necessary, but we have found that by our double method we have saved thousands of men from complete psychiatric breakdowns, and so the wisdom of our policy is becoming more apparent. As the war goes on, the benefits we earn by returning men to civil life, where they will be useful citizens, will justify the additional time spent in observation at our training stations.

There is no question but that the changing of one's method of living is a serious procedure for many people. Living in masses is one that causes peculiar reactions in whose mental stability is drawn a bit fine. You who are specialists can give men many answers for this condition. When we consider what happens when we bring thousands of young women together at our training stations, we know that we must find immediate answers

to this problem. This we must do to save these young women from a fate similar to the one that has broken down so many of our men living under trying service conditions. Very naturally, women are not called upon to work under the pressure of actual combat, except in certain instances, but it is an established fact that this is not one of the definite requisites for mental breakdown.

It has been my positive feeling that in this war, the military services must contribute everything possible to the knowledge of medicine and we are doing this in the field of malaria, filariasis and other tropical diseases. We expect, by proven research with the tremendous amount of clinical material on hand, that if we proceed in an intelligent fashion with our neuropsychiatric cases much can be contributed here for future psychiatric information. With this in mind, we have set up in one of our operating theatres a large hospital with a competent neuropsychiatric staff that will receive, in the shortest possible space of time, the man who breaks down in combat circumstances. There an attempt will be made to find ways and means of preventing a fixation of his neuropsychiatric condition. To implement this, we have sent out from this hospital, into the combat lines, small mobile psychiatric units. Thus, patients will be seen immediately upon demonstration of early symptoms. We expect to be able to handle, in this manner, the neuropsychiatric case from its inception through to its conclusion.

By early detection and transfer to a modern hospital with every known facility for treatment; with further screening to determine who should be retained, who should be returned to duty and who sent on to a continental hospital, we feel that a minimum amount of time will be wasted.

We have two plans for the handling of cases returned to our continental hospitals. One will be the collecting of a large number of patients in one institution, set up especially for the treatment of neuropsychopaths. The second method will be to distribute throughout all the hospitals of our country groups of these cases where they will receive definitive treatment. It will be the plan, whenever practicable, to send patients to continental hospitals situated not too far from their homes. It is our plan to see that the neuro-

psychiatric staffs of these general hospitals are properly trained and indoctrinated in the handling of this type of patient.

We then will present to you a contrast in treatment—treatment in a centralized location in a hospital especially prepared for this work, and the diversified treatment in our general hospitals, throughout the breadth of our land.

Never before have there been such large groups of men with psychosomatic diagnoses gathered together, and the observations which will be made by the navy psychiatrists will constitute a valuable and lasting contribution to psychiatry in general. It is to be hoped that the contribution which military life has made to psychiatry will be kept in mind for the care of the psychotic is no longer a nucleus around which psychiatry builds. The empirical trial of various techniques, training measures and psychotherapeutic methods designed to care for the normal psychoneurotic represents, in my opinion, a real contribution to psychiatry as a whole.

The ill winds of war have blown some good in that they have given physicians an opportunity to estimate more closely the rôle of the intangible—the psychological factors in our daily lives. With this estimate, psychiatry has cut out for itself a huge job. It can no longer reside within an ivory tower divorced from medicine or education or our social life. Its valued observations

are urgently needed in helping to create a stable, healthy post-war world. The importance of any science or art to the military service must be judged by practicalities. When thousands of men are in need of care, there is no time for ethereal and impractical theories. Something must be done for the good of the group. The Navy has taken the lead in attempting to solve its psychotherapeutic problems by means of group therapy, which will be discussed in the papers to be given on the Navy program here today.

When the war is over, the real task of psychiatry will begin as a factor in helping shape the post-war world and in the rehabilitation of returning veterans. Judging by the previous war, the rate of psychoneurotic casualties will increase for some years after the war. Someone, or some group, needs to coordinate the endeavors of the various groups and to bring civilian agencies, business groups, and Federal agencies into a uniform program designed not to give the veteran something but to help him to help himself. In other words, the coordination of the plans toward rehabilitating the men and making them better citizens could well be the mission of The American Psychiatric Association, for its members are experienced in the psychological reactions of people under emotional stress. Upon the proper handling of this problem will depend not only the mental health of the nation but also the ideals and character of its young citizens.

# PSYCHOLOGICAL AND PSYCHIATRIC REACTIONS IN DIVING AND IN SUBMARINE WARFARE<sup>1</sup>

A. R. BEHNKE

*Captain (M. C.), U. S. Navy, Naval Medical Research Institute, Bethesda, Md.*

The present war is subjecting unprecedented numbers of men to unaccustomed stresses for prolonged periods of time without opportunity for adequate rest and relaxation. Young men, for example, performing comparatively simple and routine tasks of farm life have suddenly been placed in contact with or in control of complicated machinery which involves confinement in small working and living spaces, subjected to extremes of temperature, to loss of sleep, to noise and vibration, to abnormal motion

and to the monotony of prolonged periods of cruising. These stresses tend to produce physical and psychic traumata that elicit traits in personality and conduct that are not apparent when the individual lives in a normal environment. A basically stable individual subjected to stress prior to adaptation and conditioning, or to stress over a long period of time, may exhibit signs and symptoms of impairment (Table 1). That he should be treated as a normal individual who will regain his ability to work when he has had more experience or after adequate rest and recreation, should be thoroughly understood by those physicians who, in the main, have dealt only with basically unstable patients.

<sup>1</sup> Read at the Centenary Meeting of The American Psychiatric Association, Philadelphia, Pa., May 15-18, 1944.

(The contents of this paper should not be construed as an official statement of the Navy Department.)

TABLE 1

IMPAIRMENT PRODUCED BY UNCOMPENSATED OR PROLONGED STRESSES ENCOUNTERED IN THE MILITARY ENVIRONMENT (DIVING AND SUBMARINE OPERATIONS)

| Intellectual functions                | Impairment referable to somatic systems or regions |   |  | Affective behavior                                      |
|---------------------------------------|--|---|--|---|
|                                       |  | Overt   | Covert   |   |
| Difficulty in thinking, concentration | Cephalic   | Drowsiness  | Heavy head, headache                                 | Anxiety<br>Tension<br>Irritability<br>Exaggerated fears |
| Impaired memory, insight, judgment    | Respiratory  | Shortness of breath<br>Shallow, rapid breathing         | Feeling of suffocation                               | Depression<br>Lethargy                                  |
| Fixation of ideas                     | Vasomotor  | Sweating<br>Pallor<br>Rapid pulse rate                  | Weakness   | Euphoria<br>Excitement<br>Hilarity<br>Pugnacity         |
|                                       | Cardiac  | Inability to exercise<br>Rise in diastolic pressure     | Precordial distress and pain                         |   |
|                                       | Gastric  |   | Loss of appetite<br>Distress<br>Nausea               |   |
|                                       | Intestinal   | Diarrhea  |  |   |
|                                       | Neuromuscular                                      | Impaired coordination<br>Tremors<br>Speech disturbances | Feeling of abdominal inflation<br>Fatigue<br>Malaise |   |



If we are to return the large body of our military personnel to civilian life for immediate productive work, carefully supervised steps must be taken to protect our best manpower, now at war, against the breakdown which may be irreversible when the military stresses have not been properly controlled or when their action has been too prolonged.

In a schematic manner (Fig. 1) it can be shown that efficiency in performance of duties in hot environments tends to be maintained by compensatory effort at a constant level (A) rather than along a decrement (B). For example, in a study of high temperatures in relation to efficiency con-

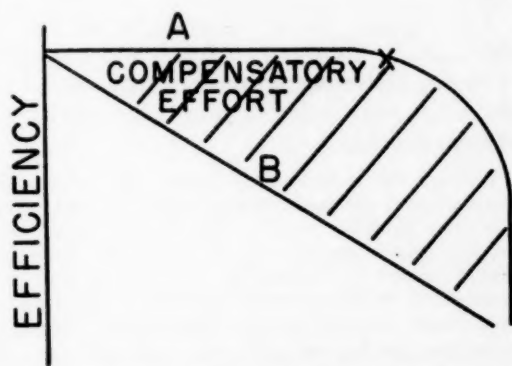


FIG. 1.—Efficiency in performance of duties under the influence of adverse environments tends to be maintained by a compensatory effort along Curve A rather than Curve B. The abrupt decline at X signifies physiologic breakdown.

ducted aboard ship, the unexpected finding was that the sensori-motor tests did not reveal a decrease in performance and that naval personnel failed to perform their tasks satisfactorily only when physical collapse supervened. By extra effort, good performance was maintained. Not only with respect to high temperatures but also in connection with other stresses such as anoxia, complicated task performance, and loss of sleep, the normal individual appears to be effective until a rather sharply marked breaking point is reached. The cost of this effectiveness is a depletion of psychic and somatic reserve.

Responsibility for accurate observations and data which form the basis of any program to conserve manpower rests with the medical officer and especially the officer with psychiatric training. Although one cannot

begin to measure or even detect the subtle and elusive biochemical changes of the healthy individual in the process of adaptation to adversity, he can observe, measure and record the impaired functional response and the early objective signs of breakdown. It is emphasized that, instead of rapid reconditioning of personnel, irremediable harm may ensue depending upon whether the medical officer regards service personnel as potential patients for introspective study or whether as an experienced and competent observer he will concentrate on a program of protective measures, training and conditioning to facilitate the adaptation that tends to occur spontaneously in the face of adversity.

*Deep Sea Diving—Nitrogen Narcosis.*—In deep sea diving the compressed nitrogen produces a narcotic action manifested by decreased ability to work and changes in mood which may be no more than mild euphoria. A slowing of mental activity and fixation of ideas are characteristic responses. Recollection requires greater effort, and concentration is difficult. Frequent errors may be made in arithmetical calculations and in the recording of data. In telling time 43 minutes might be confused with 48 minutes and, in recording time, 12.15 might be written as 15.15. A simple motor task such as turning a bolt with a wrench becomes a carefully thought-out procedure in which the individual slowly and carefully ponders over the maneuver. Unless special effort is made to apply himself, the diver will invariably turn the bolt the wrong way. The responses are those of mild stupor in which greater effort and time are necessary for proper motor performance and accuracy. The responses, in fact, may be indistinguishable from those associated with alcoholic intoxication. The following remark is typical of the reactions of student divers at depths in excess of 200 feet. "I felt a little drunk when I reached the bottom." Although this dive was his first, he concluded, "It was the best dive yet."

Over a two-year period, of 476 student divers, 19 were unable to qualify for air diving at a depth of 300 feet because their reactions to nitrogen narcosis were not compatible with work. Only two men, however,

were disqualified from all diving since they could not tolerate depths greater than 90 and 150 feet respectively. Thus, only a small number of the student divers fail to adapt themselves and may be considered as abnormal. The observations made by Lt. Commander J. J. Blanch (M. C.), U. S. N., clearly illustrate the effects of nitrogen narcosis on one of these individuals:

His unusual response to increased air pressure was first noted in a routine dry chamber dive to 225 feet. While the other nine members of his section showed varying degrees of slight release of inhibitions, the subject man's behavior was distinctly different in that he appeared quite like a person well under the influence of alcohol with much laughing, singing and slurring of speech and incoordination. In reaching for his nose to aid in equalizing pressure, he would often miss his mark and, considering this most humorous, would laugh loudly. As the pressure was decreased, he showed a gradual return to normal and at 150 feet had regained insight and seemed quite normal again. Being very eager to obtain his diving qualification, he expressed the wish to try taking pressure again.

The next day he was taken to 225 feet in the dry chamber for observation. At 200 feet he complained that he was dizzy and weak. He slumped forward with elbows on knees, grinned foolishly and began to say in singing tones, "This is so much fun, O my," meanwhile tapping one foot on the deck. He was then given helium-oxygen to breathe through an open circuit mask. In one minute he straightened up and said he now felt quite normal and stated that he was confident that he could take additional pressure. The mask was removed and in one minute there was an uncontrollable fit of laughter as he pointed jeeringly at the other occupants of the chamber. He now felt remorseful. The pressure was decreased and at 180 feet he became quiet.

In a test using a diver of average susceptibility to increased air pressure—one who could go successfully to 300 feet—the subject performed arithmetic problems at the surface and then at 150 feet.

#### TIME FOR SOLUTION OF PROBLEMS

|               | At surface  | At 150 feet |
|---------------|-------------|-------------|
| Subject ..... | 294 seconds | 471 seconds |
| Control ..... | 243 seconds | 260 seconds |

*Response to ingestion of alcohol.* The subject had been aware of a low tolerance to alcohol. He customarily drinks one or two cocktails before dinner and one or two drinks of wine or liqueur after dinner, but rarely exceeds this amount. He reported a low tolerance of sodium amytal. He had once been given 3 grains of the drug prior to a tonsillectomy and went to the operating room singing and giggling but had no recollection of this experience later.

As a test the subject and a control of the same body weight and of average tolerance to alcohol were given 4 equal doses on a fasting stomach of an alcoholic beverage at intervals of 15 minutes. Each drink consisted of 52 cc. of 86.6 proof whiskey diluted with 150 cc. of water and was consumed in three minutes.

It was found that the time required by the subject to solve arithmetical problems was trebled at the end of 45 minutes. At the end of one hour, it was only twice the initial time and at the end of 1.5 hours, it had returned nearly to normal.

The subject was decidedly intoxicated at the end of 45 minutes but began to improve thereafter and seemed fully recovered at the end of 1.5 hours.

The time required by the control to solve problems did not change appreciably throughout. His behavior indicated that he was slightly intoxicated but in control of his emotions.

During the salvage operations to raise the U. S. S. *Squalus* in 1939, it was evident from the following statements that some of the divers were rather helpless when working at deep depths.

I found the torpedo room hatch, then went to the starboard rail and forward about 15 feet. At this time thinking became difficult. I started to tie the descending line to the rail and realized that I wasn't accomplishing anything—I had a moment of blankness—was told I was fouled and to get back on the submarine. Got back and faintly remember starting up again and being pulled.

I made a normal descent, but as I started to get aboard the submarine I had a turn around my leg with the descending line. Had to struggle a bit to get it clear. Got on the submarine, called "topside" and reported. Did not hear any answer. I am not sure, but I think that I asked them if they heard me to give me the telephone signal on my life line. I must have lost consciousness for the next thing I remember is that I was jerked up off the submarine.

In men affected by the narcotic action of nitrogen the substitution of a helium-oxygen atmosphere for air minimizes and abolishes the untoward reactions and the previously abnormal individual becomes an efficient worker whose performance now cannot be distinguished from that of the normal individual.

In effect, compressed nitrogen acts as a narcotic substance. Tasks performed at high pressure during the inhalation of air are carried out under stress. The neuromuscular coordination of both stable and unstable individuals is impaired. The stable individual, however, reacts to the stress by increased effort. He will endeavor to carry out his task until consciousness is lost. The un-

stable individual on the other hand is incapable of purposeful effort by reason of those changes in mood and behavior that dissipate his energies into vocal, pugilistic or narrative channels.

*Claustrophobia, Nyctophobia.*—If the present naval environment differs greatly from that of the last war, it is in regard to the necessity of confining men within small spaces. The demands of watertight integrity because of the increased hazards of submarine, surface and aerial warfare require that ships have a multicellular structure in which occupants may be confined to restricted areas for periods of months.

Although signs of claustrophobia may rarely be manifested under ordinary conditions, weeks and months of interference with normal activity may give rise to a series of disturbances that might otherwise remain obscure. If in addition to restriction, the factor of darkness is added, the combined stresses tend to create an anxiety neurosis.

A suggestion as to a means of eliciting the claustrophobia tendency arose from observations concerning individuals who wore rubber helmets excluding light. One of the susceptible men had a year previously made a heroic deep sea dive but during a subsequent dive, he lost control of his air supply and "blew" to the surface from a depth of 240 feet. This experience seemed to have initiated a latent anxiety neurosis in a stoical, phlegmatic individual. The dark helmet usually tolerated by divers for periods of 15 hours was torn off in about 20 minutes by the subject diver. He appeared to be greatly disturbed and exhibited gross tremors, rapid pulse rate, and somewhat incoherent speech.

*Anoxia.*—The altered emotional behavior to the stress of anoxia induced by breathing mixtures low in oxygen, by simulated altitude ascents in the low pressure chamber or by actual flight in aircraft has long been recognized. Barach and McFarland, especially, have pointed out the value of anoxia as a test to exclude individuals who are emotionally unstable.

In the low pressure chamber, for example, a quiet, reserved and well mannered person may suddenly become belligerent and without provocation strike a fellow worker. The

altered behavior is similar to the responses that may be brought about by alcohol or compressed nitrogen. Depression rather than euphoria is more likely to occur in the anoxic state. In a large group of cadets exposed to a simulated altitude of 18,000 feet, 16 showed frank depression and 13 exhibited euphoria.

That emotional response is not correlated with intelligence may be inferred from the observations of a naval transport pilot concerning a group of distinguished civilian passengers who at 10,000 feet were friendly, jovial and loquacious; at 12,000 feet the mood had changed to irritability, belligerency and the expression of forceful language; and at 14,000 feet the passengers were quietly drowsy or asleep.

The signs of vasomotor collapse, weakness, pallor, sweating and nausea, are far more prominent in anoxia than in nitrogen narcosis. A distinction must be made between these signs and the altered affective behavior pattern. There is no doubt that purely psychic influences contribute to the vasomotor phenomena and are no more a reaction of anoxia than similar phenomena which follow the insertion of a hypodermic needle at ground levels. As a group, however, these individuals could be excluded as being less desirable for combat duty than men whose vasomotor responses are normal.

The importance of psychic influence in affecting newly recruited personnel is demonstrated by the difference between the incidence of collapse and other untoward reactions which occur at various low pressure chamber facilities depending upon whether adequate measures are taken to minimize the fear reaction. The incidence of "bends" even has been reduced by playing musical records at simulated high altitudes. The physiologic basis for such functional benefit is evident when one considers vasomotor regulation of blood flow and how such regulation may be profoundly altered in susceptible individuals by psychic factors. These factors, however, have proved to be a greatly disturbing variable in controlled tests attempting to quantitate reactions to stress.

*Submarine Duty.*—The remarkable performance of American submarines in the present war, in which less than 5 percent



of the fighting Navy has accounted for 75 percent of the tonnage destroyed in the Southwest Pacific to date, implies not only excellence in construction but also stands as a tribute to the qualities of the operating personnel.

Factors responsible for the excellence of the personnel are:

- (a) The men are volunteers.
- (b) The inherent nature of submarine duty.
- (c) The high physical standards.
- (d) The periodic physical examinations.
- (e) Men temperamentally unfit are eliminated early.

The submarine escape drill is of value in eliminating men who are psychically unstable. A small percentage of candidates may be disqualified by reason of abnormal psychic manifestations during the course of the drill which involves confinement in a small lock and escape through water to the surface while rebreathing with the Momsen "lung."

The inherent nature of submarine duty attracts men who like complicated and smoothly operating machinery. The submarine has appropriately been called "300 feet of Swiss watch" and the interest that the highly skilled operators take in their jobs seems, to some extent, to make them immune to the vicissitudes and vagaries of the environment.

Another characteristic of submarine duty is the realization that each man plays a real part in the war effort. The complement of men aboard a submarine is reduced to a minimum and each man is highly trained for his particular task. When his ship, therefore, is successful in combat, he realizes the importance of his contribution to the war effort.

It may be mentioned that there is a free and easy discipline aboard a submarine. It is the most effective and yet the most difficult discipline to maintain in a military organization. A former submarine commander described it thus:

To operate a complicated mechanism like a submarine, each individual must be free to volunteer information, to discuss when discussion is profitable, to exercise initiative and discretion in carrying out his duties; yet in other situations he must obey instantly, without question and without thought as to his safety. The recognition of the subtle

changes in a situation that determine where and when and in what circumstances these two widely different attitudes are demanded is what makes a good submarine man.

Men, therefore, who are temperamentally unfit for close association and the type of teamwork that requires judgment and insight, and further, men who have any latent anxiety neurosis in the form of claustrophobia elicited by long periods at sea, possibly without benefit of sunlight, are disqualified as temperamentally unfit.

It is a credit to submarine personnel in action that they are able to control their fear so that the prosecution of their duty is not interfered with. The occasional individual who is unstable, and such instability becomes evident by reason of stress from repeated and long cruises, manifests the reactions listed in Table I with euphoria, hilarity and pugnacity omitted. The basic defect is anxiety. The end result is a frank admission of "inability to take it."

The following reactions of an unstable individual to submarine action were reported to Lt. J. F. Duff (M. C.), U. S. N. R.:

My nerves seemed to give out; I shook all over; I couldn't keep my hands still, and I stammered. I couldn't seem to breathe and sweated all over. When I would like to lie down black spots came in front of my eyes and it seemed like I was going to faint. I wanted to scream and wrapped my head in a pillow so I wouldn't. After that I lost my appetite and couldn't sleep. When I did get to sleep, I'd dream of terrible things and would awaken with a great start as though someone was calling me. The second attack we had was the same way; now whenever the diving alarm sounds I start to shake all over. I wouldn't like to go out again unless I have to: I'm afraid that I couldn't take it the next time.

The value of various stresses in selecting stable individuals has been considered in connection with the submarine escape drill. Individuals handicapped by anxiety and by emotional disturbances in the performance of duty under stress could be detected by such measures as the darkened hood, confinement in a sealed chamber, subjection to anoxia and to nitrogen narcosis. Physiologic and psychomotor tests alone have so frequently failed to produce data of value in pilot selection that recourse to measures which impose the actual stresses which can



be anticipated in combat duty is indicated. Thus a pattern of responses will be elicited from which an overall evaluation of the individual, on the basis of symptoms presented in Table 1, may be made. The prime consideration is the individual's ability to meet the stress by additional purposeful effort that permits clear thinking and decisive action. If a stress can be controlled and applied in a uniform manner from day to day, an experienced observer can select those men most likely to be of value in combat duty or at least those men who will not be overcome by emotion or incapacitated by vasomotor weakness, tremors and incoordination.

In practice the chief petty officers or others in daily contact with men become so adept in screening out the unfit that recourse to their judgment is as effective as the test battery.

*Prevention of Breakdown.*—Having eliminated by stress tests the obviously unfit individuals, the important problem is the prevention of psychological failure in normal individuals as a result of extreme fatigue.

The problem of adequate rest and recreation requires an appreciation of the types of fatigue affecting submarine personnel. In a long, monotonous cruise without the stimulus of combat victory the men become stale. Their fatigue is emotional, and physi-

cal relaxation alone may fail to bring about recuperation. The régime necessary to promote a return to normal well-being can best be outlined by the submarine officers themselves for it is axiomatic that one leading a comfortable existence does not appreciate the other fellow's hardships.

Apart from the matter of proper rest, the individual under stress can be aided by knowledge and insight as to the nature of normal reaction to stress. The assurance that fear is a normal reaction, that its effect will be dissipated by combat experience, and that greater control, effort and motivation are essential to accomplish the military objective would tend to relieve feelings of deficiency in the face of adversity.

*Contribution of the Military Surgeon.*—Civilian psychiatrists may be wholly inadequate or even harmful in dealing with military personnel subjected to war stresses. Reliance is to be placed, therefore, upon the experience of military surgeons, especially flight medical officers, and the principles they employ in their contacts with aviators. A period of active combat duty of three to six months should be sufficient to school the civilian psychiatrist in the manner of proper handling of service personnel—a procedure entirely divorced from the treatment accorded patients who in civilian life are unable to cope with relatively benign stresses.

## PSYCHOPATHOLOGY OF A SELECTED POPULATION OF NAVAL OFFENDERS<sup>1</sup>

LT. JOSEPH D. TEICHER, M.C., U.S.N.R.

As the psychiatrist of a special type of naval disciplinary institution, I have had the opportunity to examine clinically some 1500 offenders whose offense was most commonly an AOL or AWOL.

To provide background for the present study, I report in some detail the work of Locke, Cornsweet, Bromberg and Apuzzo who studied 1,063 naval offenders (Naval Medical Bulletin, Vol. 44, No. 1, January, 1945). The seriousness of the problem of naval delinquency was evident from the fact that the Navy lost 90 man-years of service through such absences! The greatest number of offenses occurred shortly after boot training and after the first duty. Repeaters comprised 53.8 percent of admissions. The men were found not to be inferior in intelligence or education to the population from which they derived; 42 percent had histories of difficulty in school due to frequent truancies, suspensions and expulsions. The mean age of the group was 21.55 years and approximately 30 percent were or had been married. Of less interest because of the selected population of our institution were the findings that 16.7 percent of the total group had histories of civilian arrests prior to entering the Navy and that 7.9 percent of the total group were negroes. More significant for this investigation is their conclusion that: "The reasons given by the men for their AOL or AWOL status varied greatly from the true psychologic activation. The stated motivations were the desire to aid or be with the family, particularly in times of illness, personal illness, and the need for a rest after seeing action." The psychologic drives were considered to be "desire for pleasure; aggression against authority; and frequently neurotic or immature factors" (p. 85).

The criteria set forth in the selection of

men for the special type of institution excluded those with civilian arrest records, custodial risks, psychopaths, mentally retarded, homosexuals and drugs addicts who were screened out from the population as well as could be expected. Naturally such screening raised the type of naval offender seen to a more favorable type of individual and eliminates certain types of psychopathology from the ensuing discussion. Aside from these exclusions, and a lesser population of negroes, the basic findings of Locke, *et al.*, hold true in the main, for the general population seen by me. It is fully realized that the problem of naval offenses is complex and vexing. The average youth entering military service in wartime is subjected to a mode of life and manner of activity usually at great variance with his previous life. He is subjected to authority, restraints, stresses and strains common to a military organization. Many individuals perfectly capable of adjusting to an average, non-delinquent civil life are unable to make the necessary adjustments to military life and commit naval offenses. Obviously, the clue to understanding such offenders lies in their personality make-up.

The implications and importance of such a study as that of Locke, *et al.*, implemented by an investigation into the psychodynamics of offenses are obvious. Understanding a problem, gaining insight into the motivating forces leading to naval delinquency should provide the basis for a more comprehensive overall picture of the vexing problem of disciplinary offenses in wartime. Such an overall picture would inevitably lead to a re-evaluation and scrutiny of our present methods of screening, induction and training, and finally to a re-examination of the present functions of the military penal-corrective systems. To stress again, since the clue to naval offenses lies in the personalities of the offenders who could not or would not adjust to the naval milieu, knowledge of such personalities and their dynamics should provide

<sup>1</sup> The opinions and assertions contained in this paper are the private ones of the writer, and are not to be construed as official or as reflecting the views of the Navy Department or of the Naval service at large.

a clearer understanding of the nature of the problems and how to combat them.

After studying the personality make-up and motivations of several hundred of our selected offenders, six major psychopathological groups were evident. There is, of course, inevitable overlapping which is often marked. Yet there is sufficiently clear clinical demarcation to warrant distinction into groups. Unfortunately, I cannot quote individual cases, but any clinician working in the military penal field can examine the following groups in the light of his experience. The percentages of total population falling into each group are rough but reasonably accurate. It will readily be seen that the frequency of occurrence is about equal in Groups I, II, and III.

*Group I.*—30 percent.—The immature, basically non-delinquent, poorly indoctrinated individuals who having attained forcible emancipation from their families do not yet have adequate judgment to meet their military responsibilities.

*Group II.*—30 percent.—The men who were closely bound emotionally to and dependent upon their families or love objects. They often presented anxieties due to separation. In this group, as in Group I, egocentric and hedonistic tendencies were prominent. In Group I, immaturity is a dominant theme; in Group II, emotional dependence.

*Group III.*—30 percent.—The antagonistic, resentful, rebellious men.

*Group IV.*—5 percent.—The inadequate personalities with their evasive behavior patterns.

*Group V.*—3 percent.—Outspoken psychiatric problems.

*Group VI.*—2 percent.—Men with combat fatigue symptoms.

I have found perhaps the most common offender to be a basically non-delinquent, immature individual either poorly indoctrinated from the military viewpoint or incapable of attaining such a viewpoint, with a consequent minimal conception of military responsibilities (even taking into account the difficulty in verbalizing that some have). Being a naval delinquent meant no more than being a truant from school. Such a person was often the youngest in a family or the only boy or the family was loosely knit and supervision nominal. Often the individual

was considerably pampered, indulged and protected. He had his own way more often than not; had a good deal of freedom from restraint, including leaving school relatively early because of a distaste for it, or a history of truancy. He rarely had to do anything for himself; *e. g.*, buy his own clothes, get his own jobs, etc. His work history was negligible but he had no difficulty in his relations with people. This individual could not see why he could not do as he wished. If he wanted leave it ought to have been granted him. The arbitrariness of certain orders provoked him, the seeming teeming confusion upset him. If he felt ill, the Navy ought to have helped him stay at home. If the duty or ship was not to his liking he felt he should be promptly transferred to a billet more to his taste. His judgment was childish, his attitudes scarcely less so. He was not rebellious or antagonistic.

The offense he committed was an AOL. The subsequent court-martial, being confined in brigs for varying periods of time and subjected to the régime of a brig was a rude, shocking awakening to the gravity of his offense from the naval viewpoint. Usually when seen these men appeared more or less contrite, rueful, ashamed. The social and family pressures plus their own pride and humiliating experience provided sufficient motivation for them to realize in some measure their responsibilities. While the motivation lasted throughout confinement, it seemed to be only too simple for them to revert to their naval delinquent pattern on release.

In this type of individual, the fundamental pathology is the lax indoctrination or poor absorption of indoctrination in an immature individual who is usually a product of an over-protected, loosely supervised background and whose conceptions of military loyalty and responsibility are limited indeed. More fundamentally, one detects in personality analyses of this group a strong egocentric core and a tendency to function on hedonistic levels with consequent defective judgment and an immature, careless impulsiveness that lightly disregards responsibilities. The immaturity of these individuals does not imply that they are emotionally dependent upon their families. While emancipated forcibly (by the service) they have not yet attained



the judgment that comes with the average emancipation and development. They are not rebellious or antagonistic; they merely react to satisfy their impulses of the moment. Often such behavior is justified by them by pointing out frustrations that led to their aggressions; but the frustrations are, in reality, a reflection on the poverty of their conceptions of responsibility.

Probably the next most common group of naval offenders examined at this institution were seamen involved in emotional situations, who could see no way out of their dilemma, except by a personal handling of the situation which more often than not was consequently fouled up even more thoroughly. By no means were all the family situations as distressing as claimed. These individuals included youths as well as older men who were usually rather independent in behavior and accustomed to acting without restraints. They too, were fundamentally non-delinquent and not asocial. Often they had held substantial jobs at good wages. Induction was not eagerly sought by them. Family responsibilities were usually many. They were used to the comforts of home, quite domesticated or very much attached to a mother or wife or close relative who raised them. Refused leave or "sufficient" leave (a purely subjective interpretation), sometimes not even requesting leave, they simply raced to the scene of their emotional problem, major or minor.

These individuals flatly stated that their first loyalty was to their family and displayed a surprising ignorance of the mechanisms the military has at its disposal to handle various and sundry problems. A few alleged to have become impatient with "red tape" but all displayed a poor conception of their military responsibilities and a poor understanding of how to approach their problems in a constructive fashion; *i. e.*, within the framework of the Navy. With rare exception, taking matters into their own hands did not yield them the desired divorce, necessary money, or aid to an illness. Most felt that confinement was unjust: could not the Navy realize that they were just being loyal to their families and doing their prime duty, Navy or no Navy?

In this group, the personality analyses indicated that the small number of men caught

in desperate emotional situations showed not only lax military indoctrination or absorption and poor judgment, but also a strong egocentric tendency, since in the main they satisfied their own impulses and desires and contributed not at all to the solution or allaying of their emotional situations. Often they felt much resentment toward the authorities on whom they projected the cause of their difficulties or because the rules of the service restrained them from acting in a completely independent manner. In the largest number one detected an egocentric and hedonistic tendency but there was also present an anxiety induced by separation from the family, nostalgia or an urgent desire to fulfill dependent needs. They seized upon the family situation as an excuse to satisfy such tendencies and needs. On the whole, the largest number tended to be the emotionally dependent type who ran home or to their love object to obtain security, affection and warmth which they find lacking in the military service. Unlike those discussed in Group I, the dominant feature was not immaturity but rather the emotional dependence. Similar in both, however, was the startling frequency of lax indoctrination, egocentricity, and hedonistic tendencies.

A group of the population as substantial as Groups I and II, consisted of antagonistic, resentful, hostile individuals who disliked any restraint or authority. Such individuals had difficulty with officers, the type of duty, or complained that the ship was or was not GI; that the ship was a tug or a battleship. They presented a life-long pattern of antagonism and rebellion toward any authority, regimentation or restraint. This was borne out by histories of truancy, expulsions, flouting parental authority, difficulty with employers, offenses in the CCC, etc. They had no intention of making any attempt to accept the military mode of life or to adjust to it satisfactorily. They had their "rights" and as long as the Navy did not conflict with *them* they were without offense. Such individuals were usually recidivists and resistant to any reorientation of attitude and viewpoint.

In this group, there were found upon personality analyses dynamic factors such as insecurity, feelings of rejection and frustration. Basically, the pattern of rebellion and

antag  
insec  
gin i  
ence  
doub  
turn  
Bein  
for t  
tions  
healt  
man  
tion  
aggr  
Navy  
taini  
servi  
tion  
inde  
no in  
datic  
the  
whom  
cont  
tion  
addi  
belle  
that  
Som  
by a  
veal  
disp  
fens  
or m  
aggr  
men  
for  
F  
inad  
cann  
real  
One  
The  
the  
civil  
and  
refu  
vers  
tudi  
bay  
wha  
esca  
sea  
som  
ing  
seel



antagonism developed because of feelings of insecurity and rejection which had their origin in infant-parent relationships. Experiences in seeking security and acceptance undoubtedly met with frustrations which in turn led to aggressive, rebellious behavior. Being a rather consistent mode of reaction for them in their particular instigating situations, there was readily developed an unhealthy, persistent, rebellious pattern—a manner of counter aggression, because rejection and insecurity were conceived of as an aggression. The aggressive behavior in the Navy resulted because of frustrations in attaining their specific desires or drives in the service. The drive is often one for recognition or status. Some had developed a rigid, independent behavior pattern which brooked no interference because of the insecure foundation of such a pattern. Others identified the Navy with the strict parent against whom they rebelled; the rebellion merely continued in the service. Still others functioning on a hedonistic, egocentric level (in addition to their other characteristics) rebelled against any institution or restraints that prevented them from so functioning. Some who reacted to frustrating experiences by aggressive behavior toward the Navy revealed upon study that their offense was a displaced, aggressive phenomenon, an offense actually either a socially more desirable or more readily attained or more calamitous aggressive act. Most reacted with resentment and hostility when they were punished for their offenses by confinement.

Far less frequent were what I term the inadequate personalities or individuals who cannot constructively face and work out the realities of life's situations and problems. One of the problems is the naval service. They are overwhelmed by the complexity of the Navy, the rapid metamorphosis from civil life that is required. Ships, sea duty and gunfire frighten them. They first took refuge, usually, in all types of somatic conversion symptoms and complained of multitudinous ailments. They haunted the sick bay. When this failed to relieve them of what they considered a too difficult task, they escaped from the unpleasant situation, viz.; sea duty, by actually running away. Usually some rationalization was utilized in justifying their offense, *e. g.*, family troubles or seeking medical aid!!

Intellectual dullness, a rather sheltered, protected type of existence prior to military service, passivity and a marked dependent need were fairly constant characteristics. Fundamental was the helplessness which they felt and with which they tackled their personal and naval problems. The inadequate upon further analysis of his development usually revealed a core of insecurity and rejection which was basic, and the inadequate manner of handling problems merely tended to increase his insecurity and inadequacy.

There is a rather small but constant group presenting outspoken psychiatric problems. I include personalities with pronounced powerful feelings of insecurity, of inferiority, those with marked sexual conflicts, schizoid and unstable personalities, marked anxiety states, tension states and phobias. Such individuals usually required intensive investigation to determine the dynamics and no generalizations could be made. Arbitrarily included in this group were the mentally subnormal individuals who got past the screeners. Their intellectual retardation and extreme suggestibility make it almost inevitable that in complex or tense situations they should react in an impulsive manner with poor judgment that brings them into conflict with the authorities despite their basic non-delinquency and good intentions.

Locke, *et al.*, found definite neuropsychiatric disorders in 21.9 percent of their cases. The small number (about 3 percent) in our population was due to the fact that the most obvious disorders were screened before arrival. With regard to our more serious psychiatric disorders, I echo their statement that such individuals are not suitable Navy material and should be separated from the service "because they are a continual source of trouble, not only because of their own inability to adjust, but also because of the difficulties which they cause among their shipmates in the integral unit of a fighting ship" (p. 86).

A very small, but most interesting and deserving group were the men with actual combat fatigue symptoms and those with extensive sea and battle duty whose condition I called "cruise weariness." The latter have had duty usually from 18 to 24 months with little recreation, much battle, much physical, emotional and mental weariness. They felt

so exhausted that despite a previously perfect record they would not return to their ship and sought to remain ashore by committing an offense. They felt frustrated and resentful that the Navy did not place them ashore and these feelings were aided by their lack of knowledge of the mechanics of getting ashore within the rules and framework of the Navy. They were guilty of grossly poor judgment because the Navy provides adequately for such men, but, in their state of exhaustion their judgment was not adequate nor was their patience of average duration. Their past histories and naval records were usually excellent. They merely lost their sense of proportion and took the most direct—and harmful—way out for them. Some, after having gotten into difficulty, developed attitudes of resentment and hostility projecting their difficulty upon the naval authorities. These feelings were usually mild and amenable.

Those with combat fatigue that have committed offenses fall into two groups, each with its particular motivating dynamic factor. Those whose anxiety symptoms were dominant often developed states of maximal fear and in a panic ran away from their ship which would have conveyed them into the situation where the conflict between the dominant instinct of self-preservation and the danger incident to combat would be en-

hanced to an excruciating degree, making unbearable the anxiety symptoms they already possessed. The other group consisted of those whose dominant symptoms were hostility and resentment. They were almost paranoid in their expression of resentment which usually was directed toward their superiors (parental substitutes who failed to protect them). They conceived of acts to lead them into combat zones as a personally directed aggressive act and they displayed their resentment and frustration by counter-aggression. Then, being in difficulty merely increased their resentment and hostility so that the ventilation necessary was both prolonged and voluble. These men were usually in need of psychiatric therapy.

It was not within the scope of this paper to indicate how these various groups should be treated or to formulate a program of re-education. It is important to note that with the lessening of the number of recruits inducted or enlisted, the percentage of recidivism will increase and the waste of manpower will be more acute. Knowledge of the psychodynamics and personalities of naval delinquents can provide the basis for a rational approach to their education and re-orientation. The problem of delinquency in the military service is one which merits much honest critical overall study and much thorough remedy based upon such study.

## SPAIN AS THE CRADLE OF PSYCHIATRY

PETER BASSOE, M. D.

*Rush Professor Emeritus of Neurology in the University of Illinois  
Neurologist to the Presbyterian Hospital, Chicago*

### INTRODUCTION

The curiosity of the present writer was aroused by reading in a Spanish history<sup>1</sup> claims for priority for several discoveries and innovations, among them the assertion that Spain was the first country in Europe to institute humane care for the insane. A search of the literature was made, the results of which are here related.

Antonio Hernandez Morejon,<sup>2</sup> the author of several volumes on Spanish medical history says: "One of the glories which belong exclusively to the Spaniards is the moral treatment to combat mental affections and the establishment in the fifteenth century of comfortable and adequate buildings for the admittance of this class of unfortunates." This is confirmed by eminent foreign writers, French and German. Pinel,<sup>3</sup> in discussing occupational and recreational therapy says: "We must look to a neighbor country for an example; not to England or Germany, but to Spain." He singles out the Zaragoza asylum, "the founders of which aimed to counteract mental disorder by the charm inspired by the cultivating of fields, the instinct which prompts people to render the earth fertile, and secure the fruits of their industry." A French author of a book on Spanish asylums, Desmaisons,<sup>4</sup> thinks Pinel exaggerated the excellence of the Zaragoza asylum. However, he quotes Bourgoing<sup>5</sup> as praising the asylums in Zaragoza, Toledo and elsewhere and the spirit of Christian charity behind them. Ullersperger,<sup>6</sup> the

author of a book on Spanish psychiatry, on which he spent ten years, says that the cradle of psychiatry was in Spain, and that earlier than other nations the Spaniards constructed convenient and appropriate buildings, the first real insane hospitals in the world. A. Schmitz<sup>7</sup> also says that Spain is the cradle. "Not Pinel but physicians in Valencia in 1409 were the first to remove chains and institute moral treatment. Free exercises, games, occupation, entertainment, diet and hygiene were used." However, a recent Spanish writer, Mariano Górriz,<sup>8</sup> says that the first to break the chains of the insane was Caelius Aurelianus who lived in Carthage in the second century A.D. Ullersperger<sup>9</sup> says that Caelius advised keeping disturbed patients isolated in dark rooms on the ground floor and without restraint. Ullersperger also suggests that the works of Caelius may have been brought to Spain by the Moors.

### I. MENTAL HOSPITALS

The first of the alleged model Spanish hospitals was the one in Valencia. Its foundation is interestingly described in an early history of Valencia.<sup>10</sup> On Sunday, February 24, 1409, an eloquent cleric, Brother Juan Giliberto Jofré, on his way to church saw street urchins teasing a group of insane wanderers. In his subsequent sermon he electrified his audience by his appeal for the hitherto neglected insane. An "honored citizen," Bernardo Andreu, and his friends organized a brotherhood (cofradia) which

<sup>1</sup> M. Romero-Navarro. *Historia de España*. Heath & Co., 1932, p. 120.

<sup>2</sup> *Historia bibliographica de la medicina española*. Madrid, 1842, Vol. II, p. 245.

<sup>3</sup> *Traité médico-philosophique sur l'alienation mentale*. 2d ed. Paris, 1809, p. 238.

<sup>4</sup> *Des asiles d'aliénés en Espagne. Recherches historiques et médicales*. 176 pages. Paris, 1859.

<sup>5</sup> *Tableau de l'Espagne moderne*, 1797.

<sup>6</sup> *Die Geschichte der Psychologie und der Psychiatrie in Spanien von den ältesten Zeiten bis zur Gegenwart verfasst*. Würzburg, 1871.

<sup>7</sup> *Das Irrenwesen in Spanien*. Allg. Ztschr. f. Psychiatrie, 1884-85, 41: 366-378.

<sup>8</sup> *Historia de la asistencia psiquiátrica (origin y organizacion de los manicomios españoles)*: Los Progresos de la Clínica, 44: 234, 1936.

<sup>9</sup> L. c., p. 25.

<sup>10</sup> Perales, Juan B. *Décadas de la historia de la insigne y coronado ciudad reino de Valencia*. Madrid, 1878-80, Vol. 3, p. 391. This work is a reprint in modern language of the one with a similar title by Gaspar Escolano, published in Valencia in 1610.



was sanctioned by Pope Benedict XIII. They built a hospital which was named in the language of the period "Spital de nostra dona Sancta Maria dels Inocents" but generally known as "Casa de Orates." Marejon says: "We owe to the city of the Cid this philanthropic example, long before it was imitated by England, France and Germany." Escolano says that the hospital was highly regarded by the people of Valencia, and that its clinical facilities and methods of administration made it one of the most famous hospitals in Europe. At about the same time, the city of Valencia appointed public defenders for poor prisoners. In 1484 a general hospital was added. According to Desmaisons this caused the care of the insane to deteriorate as the brothers had so many other charitable duties. All buildings were destroyed by fire in 1545 when 30 inmates perished, but a "splendid new hospital" was built and was still in use when Morejon wrote his history (1842). There were separate buildings for male and female patients and a department for children. In the available literature no description can be found of the particular methods in this hospital, and no mention is made of physicians playing any part. Most likely the clergy was completely in charge.

The Zaragoza asylum, praised by Pinel, was founded by King Alonzo V. of Aragon in 1425. It bore the famous inscription: "Domus infirmorum urbis et orbis" and was endowed with ample funds. It is stated that here "disease produced by moral causes was treated by moral means prudently managed." In 1615 Father Murillo<sup>11</sup> wrote a book in which he described the good care given to the 120 male and 150 female patients. Górriz says there was good food, that there were clean cells for violent patients, and that there was good medical service. He adds that the only humane care given to the insane north of Spain was by the Alexian brothers in Germany (Cologne) and the Netherlands. In 1488 King Ferdinand permitted autopsies on all dead in this hospital, and anatomic studies in Spain are said to date from this time. Later the Inquisition under Philip II made dissection difficult.

<sup>11</sup> De las excelencias de Zaragoza, 1615; cited by Górriz.

In 1436, according to P. Araña Dervaflores<sup>12</sup> the pious and charitable Marcos Sanchez de Contreras founded a hospital for the insane in Sevilla. In 1471 it was taken under protection by King Enrique V, and later it was favored by the "Catholic Kings" Ferdinand and Isabella. The private physician of the latter, Villalobos, was "helpful," but in what way we are not informed.

The asylum at Valladolid, according to Desmaisons, was founded in 1436 and endowed by a wealthy man who provided funds for attendants and for clothes for the patients. Another was founded in Palma on Mallorca in 1456.

The Toledo "Hospital de Inocentes" was founded in 1480 by the apostolic nuncio, Francisco Ortiz, who donated his own house, so the asylum for centuries was known as the "nuncio." According to Gamero A. Martin<sup>13</sup> it was approved by the Pope in 1483 and endowed by the humanitarian Juan de Vergera and others. On the frieze above the entrance was the inscription: "Mentis integræ sanitati procurandæ." According to Desmaisons<sup>14</sup> a new building was added to the Toledo asylum in 1793, on the initiative of Cardinal Lorenzane, Archbishop of Toledo. Desmaisons described it as an excellent building, far superior to any in France and Italy at the time, and to the "Narrenturm" in Vienna and Bedlam in London. He adds that features of the Toledo asylum were copied when a central pavilion was built at Bedlam in 1812.

Ferdinand and Isabella founded a hospital for the insane in Granada in 1527. Desmaisons<sup>15</sup> tells of a young man, Juan Ciudad Huarte, born in Portugal who had led a wild and roving life until converted by the celebrated "apostle of Andalusia," Juan de Avila. Then he developed a psychosis, became extremely excited and beat himself. After his recovery he determined to devote himself to charitable work. Górriz says that he feigned insanity so as to be placed among the insane and be beaten as was the custom

<sup>12</sup> Compendio historico y descriptivo de la muy leal ciudad de Sevilla, metropoli de Andalucia. Sevilla, 1789, Part I, p. 68.

<sup>13</sup> La historia de la ciudad de Toledo. Sus claros varones y documentos. Toledo, 1862, p. 914.

<sup>14</sup> L. c., p. 131.

<sup>15</sup> L. c., p. 114.

at th  
an il  
amon  
he r  
fund  
He  
Dios  
foun  
lums  
in S  
Hua  
Ulle  
worl  
cias,  
was  
and  
in S  
Inqu  
dise  
a de  
reste  
unfe  
sult  
theo  
intel  
Phy  
poor  
gene  
cal  
A  
in  
Ulle  
insa  
insa  
oush  
tutio  
insa  
of t  
in m  
D  
Rui  
the  
first  
("S  
The  
prot  
had  
rare  
Ror



at the time. In fact, Górriz in his paper has an illustration of a painting showing Huarte among the insane in the institution where he remained 40 days. He then provided funds for the building of a good asylum. He later became known as "San Juan de Dios." In 1539 the order by this name was founded in Granada and it later built asylums for the insane in other countries than in Spain. Under the name "Juan de Dios Huarte y Navarro" he wrote many books. Ullersperger<sup>16</sup> highly praises his philosophic work, "Examen de ingenios para las ciencias," etc., published in Madrid in 1668. It was translated into Latin, French, German and Italian and highly appreciated except in Spain where it was condemned by the Inquisition. He located the site of mental diseases in the brain. In 1570 he observed a demented man have his reason and memory restored after a severe febrile illness, but unfortunately the man soon died as the result of that illness. Huarte said that the theory of medicine belongs to memory and intellect, the practice to the imagination. Physicians of great learning are prone to be poor practitioners, while those of low intelligence who learnt only a few things in medical school may be successful.

A hospital is said to have been founded in Barcelona in 1229, and according to Ullersperger<sup>17</sup> it was known to have housed insane persons as early as 1412, and an insane department existed in 1680. Curiously enough, Madrid had no special institution for the insane until much later, but insane patients were cared for in a portion of the general hospital founded by Philip II in 1566.

Desmaisons<sup>18</sup> credits Spaniards, Fernando Ruiz and Diego and Angelo Bruno with the establishment in Rome in 1548 of the first institution for the insane in Italy ("Santa Maria della Pietà di poveri pazzi"). The Spanish Cardinal Queva was its first protector. Before that time insane patients had been placed in leper hospitals but were rarely admitted to general hospitals. In the Rome asylum the Spanish custom of letting

the insane march in religious processions and beg on the streets was kept up until 1726 when the patients were transferred to a large hospital by order of the Pope.

Granting the truth of the relatively humanitarian care of the insane in the early days of the Spanish institutions just mentioned it was not long before deterioration took place, largely, we must admit with shame, because the orthodox Christian drive from the North overwhelmed the heathen and Mohammedan influence that had come from the South and East.

## II. DISCUSSION OF GRECO-ROMAN AND ARAB INFLUENCE VERSUS CHRISTIAN MEDIEVAL DEMONOLOGY

From the East came the tradition of centuries of humane treatment of the sick at Epidaurus and elsewhere in Greece, as well as in ancient and medieval Egypt and the later Mohammedan North Africa. Thus, according to Ullersperger<sup>19</sup> there existed in Egypt a Saturn Temple (described by Reil of Halle in 1803), devoted to the treatment of the insane, where art, nature and religion were used, also music, singing, dancing, painting; trips in polished, shiny boats to beautiful islands on the Nile. (The exact time, place and source of this information is not given but Pinel, also, mentions this description by Reil.) In the thirteenth century, according to F. M. Sandwith,<sup>20</sup> patients in the Cairo asylum were soothed by harmonious music and entertained by story tellers, dancing and light comedies. Furthermore, the Arabs did not entertain the demonological ideas of Christian Europe. Altogether, Ullersperger credits the North African Arabs and Jews with contributing to a more humane and practical view of insanity. The famous Maimonides, a Spanish Jew, born in Cordoba in 1131, became a prominent physician and humanitarian in Cairo, even physician to the Sultan. Among his many books is a volume of "aphorisms" pronounced by some as being as good as those of Hippocrates. The medical work of Maimonides is discussed by Max Meyer-

<sup>16</sup> L. c., p. 87.

<sup>17</sup> L. c., p. 140.

<sup>18</sup> L. c., p. 108.

<sup>19</sup> L. c., p. 192.

<sup>20</sup> The Cairo Lunatic Asylum. *J. Mental Science*, 34: 473.

hof<sup>21</sup> who states, however, that the medicine of Maimonides is less original than his philosophy. His most famous work is entitled "Guide for the Perplexed." It is interesting that he describes how he had observed melancholia passing into "raving mania." He recommends agreeable conversation and music in the treatment of melancholia. As to his philosophy, J. B. Trend<sup>22</sup> of the University of Cambridge makes this statement: "He is the greatest of Spanish philosophers; in fact, of all those writers in Spain who have written about philosophy, from Seneca to Unamuno and Ortega y Gasset, the only constructive thinker to produce a complete system is Maimonides."

According to Zilboorg<sup>23</sup> Rhazes in Bagdad and his contemporary Najab who lived in the ninth century were about the foremost exponents of Arabic medicine. The former was chief physician to a hospital in Bagdad which at that time had a division for mental diseases, and Najab is credited with carefully compiled observations on mental patients and with the most complete classification of mental diseases up to this time. His treatment was humane: "Good diet, baths, liniments, changes of climate, soft music, pleasant surroundings, in some cases blood-letting."

The medical historian, Chinchilla,<sup>24</sup> in the introduction to his great work says of the Moorish period: "This epoch, so famous and glorious for Spain, was the aurora for the sciences, because the doors of the peninsula were opened to all the savants of the world."

C. Daremberg<sup>25</sup> credits the Cordoba library, founded in 915, with 600,000 manuscripts. The catalogue was in 44 volumes. According to Curt Sprengel<sup>26</sup> there were

70 public libraries in Moorish Spain in the twelfth century. Paul Diepgen,<sup>27</sup> a German medical historian, says that "Islam deserves special praise for its care of the insane, so neglected elsewhere." The Portuguese historian, J. P. de Oliveira Martins,<sup>28</sup> says that "the intellectual progress of the Arabs to the end of the 12th century was, considered absolutely, superior to that of the Christian nations which received from this enemy the tradition of Greek science," and "the conquest was certainly no calamity." However, he denies to the Arabs any real scientific spirit or originality, claiming that their industrious compilations and translations and craze for building libraries were due to orders from their rulers. "Their love of Greek science was a mere caprice, not a real need of the spirit. . . . The Arab philosopher was a mere amateur and courtier, the fashion of philosophy coming from the throne." Daremberg<sup>29</sup> confirms this by saying: "La médecine scientifique n'a jamais été, chez les Arabes, qu'une médecine d'emprunt" (a loan medicine).

### III. EARLY SPANISH PSYCHIATRIC LITERATURE

Like the Arabic medical literature, which was partly Jewish, the early Spanish one was voluminous but when we deduct copies of and comments on Hippocrates, Aristotle, Galen and other ancient writers, there is not much left to indicate any great amount of original investigation or original thinking. According to Julius Pagel<sup>30</sup> one of the three men chiefly instrumental in bringing about the "medical prerenaissance" was Arnold de Villanova who lived about the year 1300. He was dominated by the ideas of Galen but is said to have been very learned and a great clinician. He did much to combat such errors as alchemy and uroscopy. Zacarias Benito Gonzales<sup>31</sup> calls him the first psy-

<sup>21</sup> "The Medical Work." Chap. 7, p. 265, of "Essays on Maimonides," edited by Salo Wittmayer Baron. New York, Columbia University Press, 1941.

<sup>22</sup> The Civilization of Spain. Oxford Univ. Press, 1944, p. 47.

<sup>23</sup> A History of Medical Psychology. New York, 1941, p. 121.

<sup>24</sup> Historia de medicina española. 4 volumes, Valencia, 1841-46.

<sup>25</sup> Histoire des sciences médicales. Paris, 1870, Vol. 1, p. 267.

<sup>26</sup> Versuch, einer pragmatischen Geschichte der Arzneikunde. Halle, 1823, 3d ed., Vol. 2, p. 350.

<sup>27</sup> Geschichte der Medizin. Berlin, 1914, Vol. 2, p. 97.

<sup>28</sup> A History of Iberian Civilization, translated by Aubrey F. G. Bell. Oxford Press. London, 1930, p. 104.

<sup>29</sup> L. c., Vol. 1, p. 267.

<sup>30</sup> Einführung in die Geschichte der Medizin. Berlin, 1898, Vol. 1, p. 174.

<sup>31</sup> Estudios teorico-practicos sobre las enfermedades mentales. Siglo medico, 12: 706; 1865.

chiatrist in Spain. His works were not published until 1500, in Lyon. Among them are one on hallucinations and one on epilepsy. Johannes B. Friedreich<sup>32</sup> also calls Villanova one of the best physicians of his time, states that he related epilepsy to the quarters of the moon, and adds that much of his writing is unintelligible. Paul Diepgen<sup>33</sup> calls Villanova the greatest physician of the middle ages and agrees with Pagel that he was one of the three men who brought about the new era in medicine, the others being Petrarch and Bacon. For a time Villanova was a professor in the University of Montpellier which at that time had superseded Salerno. Diepgen has translated the famous "parabels" of Villanova<sup>34</sup> which, however, are of no special interest to psychiatrists. Diepgen states that Villanova had a fine understanding of the psyche of his patients, that he abhorred the polypharmacy of the times and used simple remedies. He had the courage, unique at that time, to be guided by his own experience rather than by authorities, even such as Galen and Avicenna. His most important work is entitled "Breviarum Practicae."

Gonzales states that Villanova's pupil, Raimundo Lulio, born in 1232, wrote a "Liber de instrumento intellectus in medicina" which "contains sublime ideas."

Antonio Gomez Pereira<sup>35</sup> dedicated to Prince Carlos, son of Philip II, his principal work. He wrote about "frenitis" (meningitis) and "parafrenitis" (encephalitis) but denied that they were inflammations. He gave a good description of catalepsy, telling that some victims had frozen to death on snowy mountains, so he advised those subject to catalepsy to stay away from mountains or at least not go there alone. One of his main efforts was to point out the errors of Galen.

Cristobal de Vega, born 1510, physician to the same Prince Carlos, according to

Ullersperger<sup>36</sup> wrote a good description of mania which he treated with hot baths and cold water on the head, leeches and venesection near the brain. He also wrote at length on melancholia and "erotomania." Sufferers from the latter should be taught morals and religion, made to travel, with sojourns in green meadows. The patient should be exposed to persons more attractive than the loved one, and efforts should be made to cause misunderstandings between the lovers.

In 1620 Luis Mercado<sup>37</sup> published his classifications of mental diseases as follows: (1) Modus mutissimus (hebetude), (2) Mentis alineatio, (3) Stultitia, (4) Melancholia-mania, sive furor, (5) Fatuitas; stupiditas et fatuitas.

Andres Velasquez<sup>38</sup> seems to have had a conception of manic-depressive psychosis for in his book on melancholia he says there are two forms, one melancholia proper, and the other mania. Francisco Leiva y Aguilar<sup>39</sup> of Cordoba in a book mainly concerned with the ill effects of tobacco incidentally gives an animated description of melancholia: "How unfriendly the patient is towards all! When one looks at him he withdraws; when spoken to he does not answer. If anyone looks for him he hides; if called he does not answer; if given an invitation he declines. Amusements make him sad. He finds entertainment in sorrow and solitude, abhors company. He may begin to speak, but stops, starts to walk, but halts. He likes darkness, avoids light. If ill, he wants no medicine. The simplest thing is difficult. He eats not when hungry, gets thirsty but does not drink. He counts the stars and counts the sands on the beach. He has forebodings for the future. He abhors life, wishes to die. Thus the patient goes on until some day he is found hanging from a beam or drowned in a well."

Andres Piquer,<sup>40</sup> who lived from 1711 to 1772 and is considered one of the greatest Spanish physicians, in a book on the insanity of King Ferdinand VI described it as "affecto

<sup>32</sup> Versuch einer Literargeschichte der Pathologie und Therapie der psychischen Krankheiten von den ältesten Zeiten bis zum 19ten Jahrhundert. Würzburg, 1830, p. 102.

<sup>33</sup> L. c., Vol. 2, p. 76.

<sup>34</sup> Diepgen, Paul. Des Meisters Arnold von Villanova Parabeln der Heilkunst. Leipzig, 1922.

<sup>35</sup> Novae veraque medicinae experimentis et evidentibus rationibus comprobatae, 1558. Cited by Chinchilla. Vol. I, p. 378.

<sup>36</sup> L. c., p. 77.

<sup>37</sup> Cited by Ullersperger, p. 174.

<sup>38</sup> Libro de melancholia. Sevilla, 1587.

<sup>39</sup> Desengano contra el mal uso del tabaco. Cordoba, 1634. Cited by Ullersperger, p. 118.

<sup>40</sup> Sobre la enfermedad de Ferdinand VI.



melancolico-mania." He considered mania and melancholia the same disease.

On account of these publications the claim has been made that these Spaniards anticipated Kraepelin with the conception of manic-depressive psychosis—but it is a fair assumption that they got the idea from Aretaeus of Cappadocia who lived in the first century A.D. and who probably actually was the first to express this idea, which he did very clearly.<sup>41</sup>

*Mental hygiene* was discussed by Blas Alvarez y Mirabel in a book published in 1597, entitled "Conservation of Health of Body and Mind by good regulation of the health and longer life." Among other agencies he mentioned how music may help to conserve health and be a remedy for many diseases. Many chapters were devoted to the various "passions." A similar book was written by Carlos Antonio Puertas.<sup>42</sup> He subdivides the mind into common sense, imagination, perception, judgment and language. The "passions" obscure the intellect. A strange book was written in 1588 by a woman, Oliva del Sabuco de Nantes Barrera.<sup>43</sup> She gives directions in separate chapters for struggle against worry, fear, melancholy, anger, hate, indolence, shame, jealousy, revenge, and how to cultivate the opposite of all these; also directions for methods of improving humanity by laws, hygiene, true philosophy, etc. While Chinchilla in his book gives her much space and respectful consideration Desmaisons<sup>44</sup> does not believe she deserves the praise bestowed upon her.

Phrenology and physical types were discussed by Estaven Pujasal<sup>45</sup> who claimed to be able to read a person's character from the shape of the head and various body types. A small head and thin neck mean weakness and poor mental endowment. A large head, rounded in all parts, means retiring, wise, spiritual, discreet, just, and with strong

imagination. At least a dozen types are described. The significance of various facial features is described in great detail.

#### IV. CONTRIBUTION TO PSYCHIATRY BY THE PHILOSOPHER VIVES AND THE NOVELIST CERVANTES

Juan Luis Vives, who was born in Valencia in 1492, and died in Flanders in 1540, is called "the father of modern psychology" by the English philosopher Foster Watson<sup>46</sup> who says he should be put ahead of Descartes and Francis Bacon. Gerhard Hoppe<sup>47</sup> praises his work in psychology but does not mention anything about psychiatry. His Spanish biographer, A. Bonilla y San Martín,<sup>48</sup> quotes from his book "De subventionem pauperum," in which Vives recommends for the insane, that the cause of their insanity should be inquired into to determine whether they are curable or not. Adolfo Castro<sup>49</sup> has translated "De subventionem pauperum" into Spanish with the title: "Del Socorro de los Pobres o de las necesidades humanas." It was published in 1526 and dedicated to the consuls and senate of the city of Bruges in Flanders, where Vives spent much of his life. Vives states that "there is nothing nobler in the world than man, and nothing nobler in man than the mind." When a man's mind is diseased one must find out if the insanity is "natural," or the result of some happening. The patients must not be laughed at or ridiculed. Each must be treated according to his needs. Some need nourishment, some sympathetic care, some instruction. A few need punishment but this must be given in such a manner that they do not become more furious. He advocates proper institutions for the sick insane, and after recovery they should be aided to secure employment. Vives left Spain at the age of 17 years, studied in Paris, spent several years in London and lived most of his life in Flanders, where he died. He wrote much about education,

<sup>41</sup> Zilboorg, l. c., p. 74, cites convincing evidence of this.

<sup>42</sup> Gobierno moral y médico para conservar la salud y buenas costumbres. Pamplona, 1694.

<sup>43</sup> Nueva filosofía de la naturaleza del hombre. (Reprinted in "Biblioteca de autores españoles. Tomo LXV. Obras escogidas de filósofos. Madrid, 1873.)

<sup>44</sup> L. c., p. 126.

<sup>45</sup> Anatomía de Ingenios. Barcelona, 1637.

<sup>46</sup> Psychological Review, 22: 333, 1915.

<sup>47</sup> Die Psychologie des Juan Luis Vives nach den beiden ersten Büchern seiner Schrift "De anima et vita," dargestellt und beurteilt. Berlin, 1901.

<sup>48</sup> Luis Vives y la Filosofía del Renacimiento, 3 volumes. Madrid, 1929, Vol. 2, p. 274.

<sup>49</sup> Biblioteca de autores españoles. Tomo LXV. Obras Escogidas de filósofos. Madrid, 1873, p. 283.

and advocated education for women. He wrote in Latin, was a seclusive philosopher, and could not have had any direct influence on the care of the insane in Spain during his lifetime.

Discussing the psychology of Vives, Zilboorg<sup>50</sup> calls him the first forerunner of Freud and also credits him with being the first to describe the importance of psychological association, and to recognize the emotional origin of certain associations, their ability to revive long forgotten thoughts, sensations and emotions. Zilboorg particularly praises his chapter on emotions in which he "describes the egotistic drives of man, his appetites, his trends of self-approbations, active love, and passive love . . . terms almost ultramodern, almost Freudian." Zilboorg also credits him with having gained insight into the true nature of jealousy. He sums up his estimate of the man thus: "Vives was not only the father of modern, empirical psychology, but the true forerunner of the dynamic psychology of the twentieth century."

*The Novelist Cervantes.*—The most recent and one of the most enthusiastic discussions of the contributions of Cervantes to psychology and psychiatry is by Carlos Gutierrez-Noriega<sup>51</sup> of Lima, Peru. He credits Cervantes with having pictured in Don Quijote a typical leptosome introvert and in Sancho Panza a pycnic and extrovert hypomanic. He suggests these types should be called the "Cervantes" or "Cervantes-Kretschmer" types. He claims that Cervantes described accurately the mental changes of adolescence and climacterium, the former in the books *La Gitanilla*, *La Ilustre Fregona*, and *La Galatea*. Some of his descriptions of insane characters read so much like clinical histories that it is suspected that they represent actual cases observed by Cervantes as it is known that he lived fifteen years in Sevilla and paid visits to the Sevilla Insane Hospital. Such a case is that of the young man in *El Licenciado Vidriera* (The Licentiate of Glass), a romantic idealist and brilliant law student. The young man went to Rome with a prominent person, and here a wily woman fell in love with him, and

being rebuffed she gave him a "love potion" which caused him to become desperately ill. He recovered physically in six months but had the delusion that he was made of glass, asked people not to touch him lest they crush him. Otherwise he was extremely intelligent and retained his learning. This was demonstrated by a series of questions and answers, so Cervantes has been acclaimed as the inventor of "mental tests." He was finally cured by a monk of the order of St. Jerome. Perhaps the reading of this story is responsible for the delusion of a patient described by Alfonso Ponce de Santa Cruz<sup>52</sup> in a book dedicated to King Philip II. He described the case of a man who thought he was made of glass. He was cured when fire was set to his room, and he beat on the door to get out. When told that he could not have done that if made of glass he admitted that he was wrong.

In Chapter I of the second part of Don Quijote the barber tells Don Quijote of an occurrence in the Sevilla asylum which rings true to anyone familiar with state hospitals. A patient, believing himself cured, wrote the archbishop and asked his help to be discharged. The archbishop sent a young priest to see the patient. The priest was convinced of the man's sanity, and in spite of the warnings of the head of the asylum insisted on taking him home. Another patient who had been listening became angry and said "I am Jupiter and I will stop the rain if this man is released." Then the supposedly recovered man said: "I am Neptune, the father and god of the waters and I will have it rain whenever necessary." The priest then left the patient in the asylum. The delusions of jealousy of an elderly rich man married to a very young girl are excellently described in "The Jealous Estremaduran." But Cervantes, being a novelist and not a psychiatrist, lets the jealous man direct in his will that his wife is to marry her seducer after his own death, and he doubles the fortune settled on her.

Morejon<sup>53</sup> also praises the psychologic understanding of Cervantes and says that he anticipated Hahnemann when he cured

<sup>50</sup> L. c., p. 180.

<sup>51</sup> Revista de Neuro-psiquiatria, 7: 149-189; 1944.

<sup>52</sup> Dignotio et cura affectuum melancolicorum, 1622. Cited by Chinchilla, l. c., Vol. 2, p. 250.

<sup>53</sup> L. c., II: 167.

the fondness of the Spanish people for knight-errantism by his caricature, Don Quijote.

A great many authors from many countries have written copiously on the psychopathologic contributions of Cervantes. W. Weygandt<sup>54</sup> states that the paranoiac character of Don Quijote is as well described as the insane characters of Shakespeare, the contemporary of Cervantes.<sup>55</sup> Don Quijote, like Cervantes himself, was leptosomeschizoid and one might think that Sancho Panza is to be looked upon as pycnic-cyclothymic, but Weygandt does not believe that the author had that in mind. The clinical picture of paranoia in Don Quijote is not clear as he only had illusions and not delusions. The recovery of insight before his death is not true to form in paranoia, but Weygandt thinks it was necessary from a literary point of view.

W. Leschmann<sup>56</sup> takes a different view, claims that the case of Don Quijote was one of mania, with duration 164 days. He quite aptly compares Don Quijote to Ibsen's Peer Gynt, a caricature of the foibles of the Norwegians. To the present writer Cervantes had a keen insight into human nature and a most detailed knowledge of all classes of people in Spain. He had a marvelous dramatic talent and loved to superimpose on some of his characters, for the purpose of emphasis, psychopathic manifestations with which he undoubtedly had familiarized himself while living in Sevilla. In Don Quijote he partly described himself, both his own physical appearance, and his early yearnings. He wrote the book after the age of fifty when he had learnt to realize the follies of his people. Sancho Panza was pictured as a contrast, both in body and

mind, a short, stout, realistic, unimaginative peasant. If he had desired to make a clinical case of schizophrenia or paranoia out of Don Quijote he would not have had him recover and recant his delusions before his death. In fact, it is almost impudent for psychiatrists to try to hold a literary genius like Cervantes down to psychiatric dogma.

#### SUMMARY AND COMMENT

Was Spain a "cradle of psychiatry"? She certainly was not the mother of psychiatry for that honor belongs to Greece. In the middle ages she stressed charity in her Christianity, and for some centuries both the Christians and Mohammedans showed remarkable tolerance. The Moors gave to Jews as much freedom as to Christians. Some of the churches were used by Mohammedans on Friday, Jews on Saturday, and Christians on Sunday. On account of the relative isolation from the rest of Europe Greek and Roman traditions were maintained and strongly reenforced by the same traditions brought by the Arabs, and still more by the oncoming renaissance. Spain was relatively prosperous and powerful as well, and all these factors helped to bring about the remarkable attention given to the insane in the fifteenth and sixteenth centuries. Spain truly was the cradle of psychiatry but she later neglected the infant, and in the following centuries she actually fell behind other countries. With the advent of the inquisition and the hunt for heretics charity was largely lost sight of, and, as usual, the insane were the first to be neglected. During the bitter warfare between Christians and Moors, the latter also became fanatic and more intolerant. On account of the intellectual isolation of Spain, on which all historians agree, it is not likely that the "cradling" of psychiatry in Spain did much to further better care of the insane in the rest of Europe. It was probably known to very few until Pinel visited Spain at the time of Napoleon.

<sup>54</sup> Don Quijote des Cervantes im Lichte der Psychopathologie. Zeitschr. f. d. ges. Neur. u. Psych., 154: 159-185, 1935.

<sup>55</sup> They died in the same week and according to some, on the same day, in 1616.

<sup>56</sup> Die Psychopathologie des Cervantes. Ein Versuch ihrer Darstellung auf kulturgeschichtlicher Grundlage. Ibid., 160: 767-792, 1938.



## PREFRONTAL LOBOTOMY

### THE PROBLEM OF SCHIZOPHRENIA<sup>1</sup>

WALTER FREEMAN, M. D., PH. D., AND JAMES W. WATTS, M. D., F. A. C. S.

*Washington, D. C.*

The anatomically normal brain in schizophrenia is one of the great mysteries of psychiatry. How a patient with this disease can live on for years if not for decades and then come to necropsy with a brain that shows no indications of disease either grossly or microscopically is a challenging problem. Our answer to that challenge has been to produce discrete anatomical lesions in the brain and to observe the sequence of events that followed the operation. The present report deals with 50 cases that were subjected to prefrontal lobotomy from two to seven years previously. While some changes may occur in the figures as time passes, the occasional relapses are apt to be more than balanced by the further improvements. Social adjustment is sometimes better at the end of five years than it is two or three years after operation.

Our attitude toward the problem of schizophrenia is decidedly practical. If a patient is able to live outside of a mental hospital, the result is apt to be listed as fair; if the patient is able to earn a living or manage a household, or even to study or do part-time work, the result is apt to be listed as good. We are not especially concerned as to whether a patient can go back to teaching literature, or resume his college studies, or direct the family firm. We do not expect that a patient will resume his work in the field of science or of social uplift that might previously have been an important part of former activities. Nor are we insistent that a patient have insight, or the ability to discuss personal problems. We are not particularly concerned if a patient retains his hallucinations and delusions. Above all we do not speak of recovery, since in undergoing prefrontal lobotomy a patient may exchange one psy-

chologic deviation for another. It comes down to a question of which deviation interferes less with his social adjustment. If a patient can take care of himself after operation we are satisfied with the results.

#### INDICATIONS AND CONTRAINDICATIONS

Not all schizophrenics are good candidates for prefrontal lobotomy. It has been part of our problem to select those that are susceptible of improvement. But it has also been our problem to ascertain what could be accomplished in more unfavorable cases. In this respect we have had much less experience than certain teams who have been working in mental hospitals, such as Petersen and Buchstein(1), Strecker, Palmer and Grant(2), Bennett and Keegan(3), and especially Schrader and Hoxtor(4) in this country; and Egas Moniz(5), Rizzatti and Borgarello(6) and Hutton and Fleming(7) abroad.

However, we believe that our material, small though it is, is acceptable for the reason that the cases have been followed for an adequate period of time, and also because a number of patients unimproved or relapsing have been subjected to secondary and more extensive operations in the hope of securing further benefit. No patient should be given up who is still manifesting an observable emotional response to his abnormal ideas.

The emotional response is by far the most important criterion in determining whether a patient will benefit from prefrontal lobotomy. Such factors as age, sex, duration of the disease, physical condition, etc. play a negligible rôle. Original intellectual endowment may be of some importance, although it is our belief that many so-called schizophrenics on a defective basis are really schizophrenics whose illness began in childhood. We have operated upon a few such patients, but with poor results. Even concurrent disease of the brain is not necessarily a contraindication to prefrontal lobotomy.

<sup>1</sup> Read at the Centenary Meeting of The American Psychiatric Association, Philadelphia, Pa., May 15-18, 1944.

From the Department of Neurology, George Washington University.

Intellectual deterioration is particularly difficult to assess in schizophrenics, and therefore should not be counted as of great importance. Habit deterioration is also an imperfect guide, since carelessness with excreta not infrequently disappears after the operated patient regains control of the neurologic mechanism of the sphincters. Emotional deterioration, we believe, can best be judged by the facial expression of the patient and by the state of sympathetic tonus, as manifested by the pupils, pulse and peripheral circulation. Excitement, resistiveness, stupor, destructiveness, combativeness—these are favorable indications, while docility, vagueness and true apathy are definite contraindications. In other words while a patient is still fighting his disease prefrontal lobotomy offers a chance for relief and for consequent improvement in behavior.

Schizophrenics are the most difficult patients to relieve by prefrontal lobotomy. The problem is much simpler with anxiety states, involutional depressions and obsessive tension states. We have been inclined to attribute this observation to the supposition that most schizophrenics have a strong constitutional factor and a relatively early development of the emotionally tinged autistic thinking. Prefrontal lobotomy is schizophrenia is often unsuccessful when carried out as far forward as the plane of the coronal suture. The thinking patterns persist, and, what is more important, there is still enough of an emotional component to dominate the behavior of the individual. He remains schizophrenic, and even such drastic treatment as convulsive shock will alter his behavior only temporarily. Presumably the organization of cortical neural circuits becomes stabilized to an abnormal degree, according to the theory originally proposed by Egas Moniz. Furthermore, with persistence of abnormal stereotype activities in the cortex there occurs, through a process of facilitation, an incorporation of more and more neural circuits. Thus one might envisage the activities of constellations of cortical neurons extending over an ever greater and greater area of cerebral cortex, encroaching more and more upon those areas previously of rather undifferentiated type which serve to bring the individual into re-

lation with his environment and to aid him in a constructive pattern of social adjustment. The farther anterior the incisions in the frontal lobe are made the less alteration there is in the behavior of the individual.

On the other hand a lobotomy far enough posterior to the plane of the coronal suture to bring about such definite Area 6 symptoms as reflex grasping and groping, with transitory Babinski sign and prolonged incontinence will usually succeed in abolishing the emotional charge attached to the abnormal ideas, although at the expense of severe disability in the social adjustment of the patient. Every millimeter the subcortical incisions are placed posterior to the coronal suture, prolongs the patient's convalescence and postpones the resumption of personal responsibility.

With these considerations in mind, we are inclined to undertake prefrontal lobotomy in a chronic schizophrenic patient with the expectation of eventually performing a very radical operation. If there is relatively good preservation of socially acceptable habits or recent appearance of psychotic symptoms or fairly good temporary response to shock therapy, then we are inclined to incise the frontal white matter in the plane of the coronal suture, but with the understanding that a secondary and more extensive operation may have to be undertaken at some future date, usually within a few days, should the patient's condition remain unchanged.

The surgical technic has previously been described by ourselves(8).

Surgical convalescence from an extensive operation is likely to be slow, and some hazards and complications are apt to be met with that need not detain us here. Psychiatric convalescence is even slower and a month or two may elapse before the patient is able to feed, dress and bathe himself. Sphincter control is erratic, and lethargy, indolence and apathy are marked. The loss in initiative is especially notable. However, almost from the completion of an adequate operation, a subtle change is noted in the behavior and facies of the operated patient.

#### SIGNS OF RECOVERY

Most striking of these signs that the operation has been effective is the attention

that the patient devotes to activities that are going on about him. He follows the nurse's actions with his eyes even though he may be unable to speak or to turn over in bed upon command. There is also a washing out of any expression of tension in the face, which becomes quite mask-like. The hands and feet become warm, dry and pink and the pulse is leisurely, but these signs of sympathetic relaxation are not altogether reliable, since they occur temporarily even after an inadequate operation.

Disorientation, unresponsiveness and incontinence are indications that the operation has been sufficiently extensive, whereas euphoria, talkativeness and quick return of desire and capacity for independence presage later relapse. The persistence of hallucinations and delusions is of little importance in estimating the chances of recovery. These phenomena often persist for a long period after operation, but it is a good sign if the patient no longer is preoccupied with them. It is to be expected that the motor component of the patient's behavior will continue for a period, so it is not of great concern if a patient picks at himself or fumbles with his genitals.

In the later stages of recovery following prefrontal lobotomy, the favorable indications are the relatively rapid regaining of initiative during the second month and the toning down of the euphoria and exuberance that usually replace a long period of apathy. It is during this period that the puerile behavior of the operated patient may be quite trying to those who have to care for him at home or in the hospital. The longer the period of the primary inertia the more likely it is that the overactive stage will be prolonged, although in the more deteriorated cases apathy and inertia are apt to be permanent. It is often difficult in these cases to tell for a long period whether the patient is suffering from persistence of his schizophrenic withdrawal or from the lobotomy apathy and inertia. A deteriorated schizophrenic looks and acts the same with or without his frontal lobes.

It goes without saying that a fairly large percentage of schizophrenic patients subjected to prefrontal lobotomy will remain in the mental hospital. One may well ask what good may be expected from operating

on such patients if their chances of leaving the hospital are so meager. The answer seems to lie in the better adaptation of these patients to hospital environment. It is a source of no little satisfaction to observe a change in a patient's behavior from resistiveness to cooperativeness, from stupor to interest, from depression to elation, from untidy, destructive, combative behavior to quiet, orderly and even cheerful compliance with the ward routine. From the standpoint of the administrative problem, therefore, prefrontal lobotomy has something to offer. To the objection that such a procedure smacks of deliberate mutilation of a patient for the sake of convenience of the staff, one may well answer in rejoinder that if the patients were not desperate they would not be combative and destructive. In talking with disturbed patients who have been operated upon, the past seems like a bad dream, and the patients remember only vaguely their abnormal behavior, regretfully, and they may speak without rancor of the protective measures applied by the attendants. We would emphasize the fact that once the postoperative lethargy has been overcome, these schizophrenic patients, particularly the disturbed, combative and vicious ones become cheerful extraverts, interested in what is going on around them and willing to work if someone will take the trouble to direct them. In services where prefrontal lobotomy has been carried out on any considerable scale the problem of the disturbed schizophrenic has been all but solved.

## RESULTS

Fifty schizophrenics have been observed over a period of from two to seven years following prefrontal lobotomy. Their present status is shown in Table 1.

TABLE 1  
STATUS OF SCHIZOPHRENIC PATIENTS TWO TO SEVEN YEARS AFTER PREFRONTAL LOBOTOMY

|                                      | No. | Percentage of living patients |
|--------------------------------------|-----|-------------------------------|
| Employed .....                       | 16  | 32                            |
| Keeping house .....                  | 4   | 8                             |
| Studying or employed part time ..... | 6   | 12                            |
| Home .....                           | 15  | 30                            |
| Institution .....                    | 9   | 18                            |
| Dead .....                           | 1   | ..                            |
|                                      | —   | —                             |
| Total .....                          | 51  | 100                           |



It will be seen that slightly more than half of the patients are usefully occupied and less than one in five is institutionalized. One patient died of rheumatic heart disease several months after lobotomy. Some representative cases are summarized in Figs. 1 to 5.

#### MOSTLY THEORETICAL

We have been convinced that when the *modus operandi* of prefrontal lobotomy has been adequately established there will no longer be much hesitation in going ahead with an essentially conservative operative procedure. As in almost all surgical conditions, prolongation of the interval between onset of the malady and surgical treatment makes for prolonged disability and inferior eventual results. Fortunately in schizophrenia there is plenty of time before irreversible changes (barring suicide) are likely to occur, so that it is perfectly justifiable to invoke other therapeutic means including shock therapy, and to repeat those procedures until even the enthusiast admits that the patient is unlikely to show improvement. Surgery is definitely the last resort in schizophrenia, but this does not necessarily mean that surgery should be postponed indefinitely. We have been regretful on several occasions when families have come to us five years or more after we had first recommended prefrontal lobotomy for a patient, to have to inform them that in our opinion the patient had undergone so much emotional deterioration in the interim that prefrontal lobotomy offered no likelihood of bringing about any improvement.

The theory underlying prefrontal lobotomy is that severing the connections between the thalamus and the prefrontal regions brings about a decided lowering of the emotional responses that activate and energize the ideational processes generated in the frontal lobes. These ideas, we believe, are concerned with the ego and the future (9). The incipient schizophrenic, to our way of thinking, becomes involved in efforts to understand himself and to penetrate the future; he devotes so much time to thinking upon abstract problems that he becomes fatigued. Fatigue, instead of exercising a quieting, inhibiting effect upon the brain,

arouses it to abnormal perverse hyperactivity, so that the problems which have at first been only intriguing then become vague, menacing, pervading and obsessive. The unanswered questions persist in the patient's consciousness in spite of his efforts to displace them, and the emotional charge becomes reinforced. With further attempts to know the unknowable and "screw the inscrutable," the patient's thoughts turn more and more upon himself, particularly as he attempts to ascertain why it is that he cannot find the answers. With this comes further projection of the self into the future and the conjuring up of dire consequences. The emotional charge that implements these ideas becomes more and more violent, with the result that the mental activities become completely dominated by the problems of the self and of the future, and eventually the fatigue continues into exhaustion, thinking is no longer coherent, depersonalization results, and finally the emergence of frankly abnormal psychologic phenomena such as hallucinations and delusions (10).

Severing the thalamofrontal radiation causes an immediate disappearance of the emotional component linked with the ideational processes that are generated in the frontal areas. These ideational processes may continue for a period, sometimes a long period, but because they lack their emotional charge they no longer have the power to hurt the patient, and they no longer prevent the patient from turning his attention toward the outside world. There is a shift in emphasis from self-directed thinking toward objective thinking, and the emotional processes while vivid are shallow and are aroused by external happenings rather than by inward searching thoughts.

There is thus, following prefrontal lobotomy a redirection of the thinking processes from the self toward the environment. The patient takes his cue from those around him. He is cheerful when they are cheerful, playful when they are playful, sympathetic when they arouse his sympathy, apologetic when they show him how he has transgressed. He is dignified in the presence of strangers, and exuberantly childish at times amid home surroundings. He works when he is sufficiently activated. He gives thought to the

NAME: T. D.                      SEX: Female.                      Divorced.                      Age at first operation, 32.  
EDUCATION: 9th grade.                      OCCUPATION: Housewife.  
DIAGNOSIS: Dementia precox, catatonic.                      ONSET: 1934—DISABLED: 1938.  
HOSPITALIZED: August 1938.                      SHOCK THERAPY: Metrazol 20.

SUMMARY OF CLINICAL RECORD: Excited, resistive, untidy, silly. "When disturbed she is about the meanest patient, continually fighting with the other patients and spitting on anyone within reach. Will not keep clothes on." Moody and highstrung before onset with suicidal attempt. Rapid re- turn to constructive activity after lobotomy. No return of hallucinations or delusions. Has been employed over 2 years.

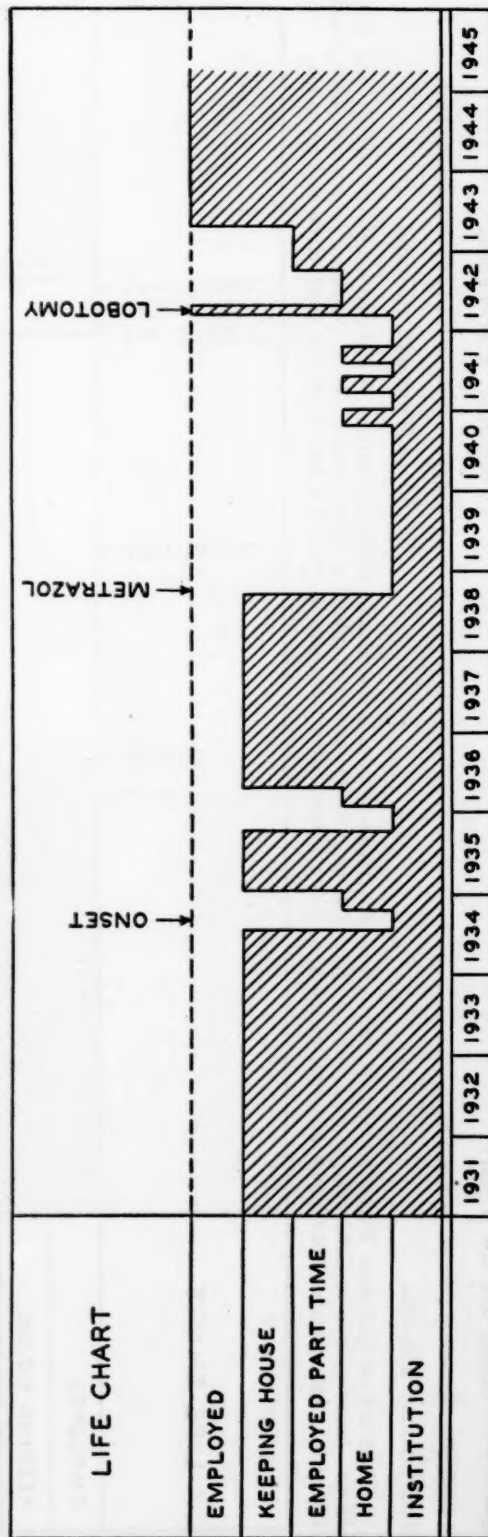


FIG. 1.





NAME: E. H.                      Sex: Female.                      Age at first operation, 24.  
EDUCATION: High school.                      Occupation: Typist.  
DIAGNOSIS: Dementia precox, catatonic.                      Onset: March 1936—Disabled: June 1936.  
HOSPITALIZED: August to December 1936.                      Shock Therapy: None.

SUMMARY OF CLINICAL RECORD: Always a quiet dreamy girl. Patient's first breakdown was blamed on overwork and disappointment in love. Four months in catatonic stupor relieved by lobotomy with slow convalescence but eventual return to work. After four years she again lapsed into catatonia and a second lobotomy was performed. Eight months later she again secured employment as a typist.

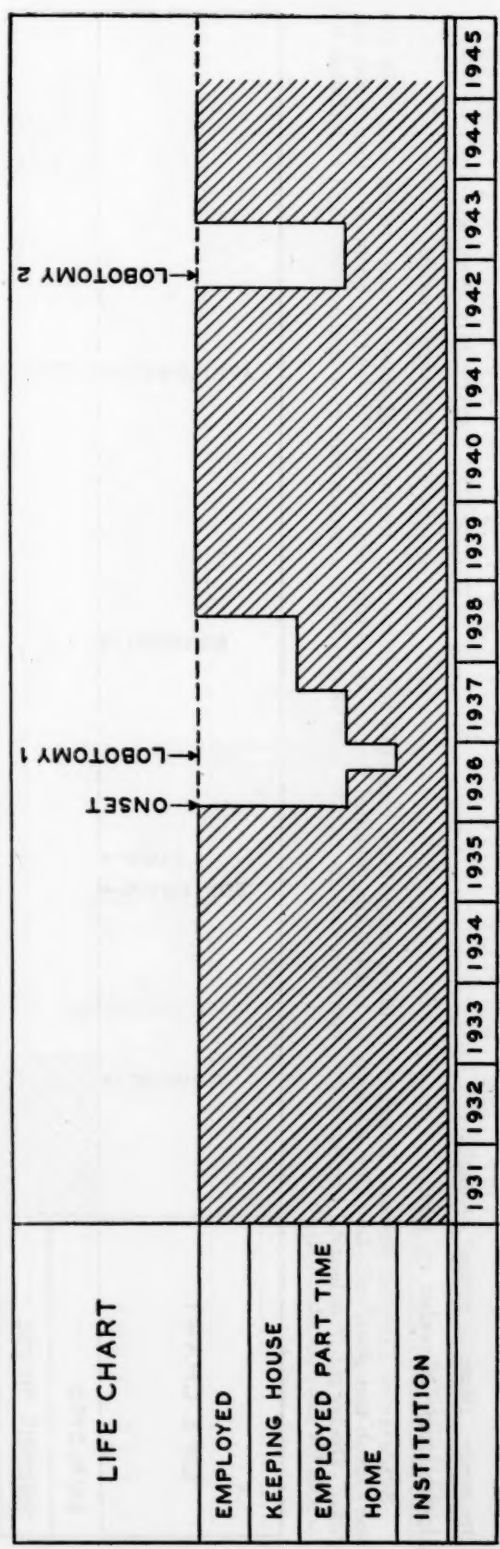


FIG. 3.



NAME: M. B. S.                      SEX: Female.                      Married.  
 EDUCATION: High school.  
 DIAGNOSIS: Dementia precox, catatonic.  
 HOSPITALIZED: 1937.  
 Age at first operation, 32.  
 OCCUPATION: Clerk.  
 ONSET: 1933—DISABLED: 1936.  
 SHOCK THERAPY: Insulin.

SUMMARY OF CLINICAL RECORD: Mild breakdown soon after marriage with depression and anxiety responding to amyotal narcosis. Acute catatonic excitement in 1936 responding temporarily to inadequate lobotomy. Variable adjustment for eight months followed by relapse when she tried to resume her former position. No response to insulin shock therapy. Patient has been on disturbed wards most of the time since 1937, has gained considerable weight, is silly, delusional, hallucinated, resistive and seclusive.

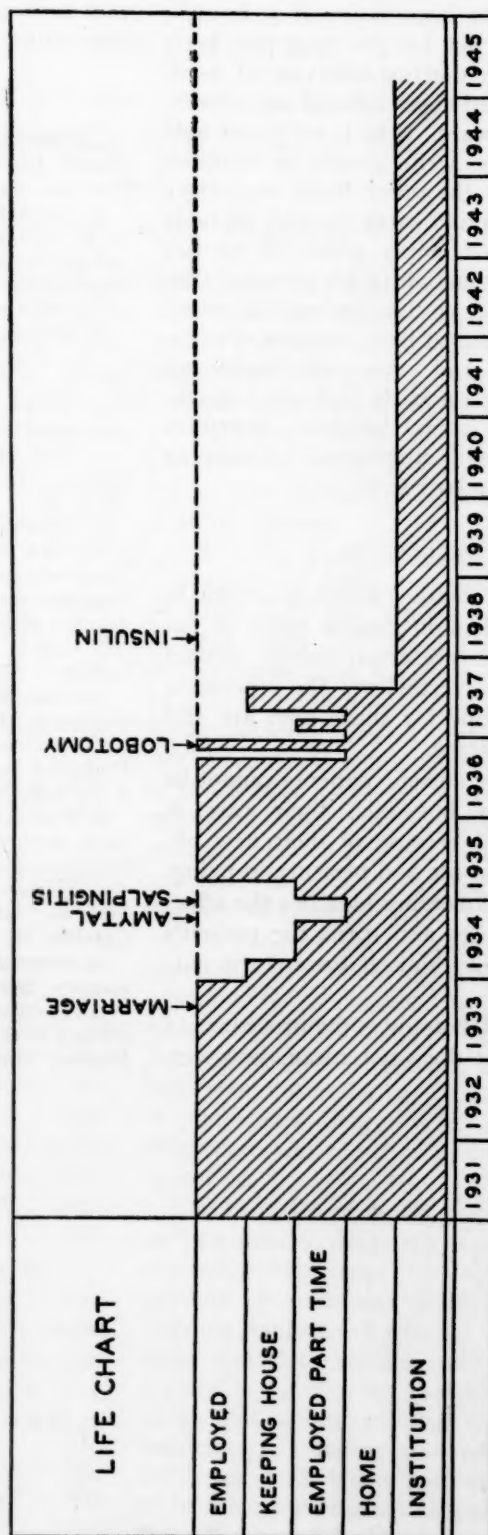


FIG. 5.



morrow when the importance of it is sufficiently stressed, but for the most part he is satisfied to let the morrow take care of itself. He is unconcerned about himself and unworried about the future. If he is no longer able to paint pictures, write poetry or compose music, he is, on the other hand, no longer ashamed to fetch and carry, to wait on table or make beds or empty cans. If he has suffered some reduction in his personal dignity and vanity, he has gained in social adaptability and has at least a chance of earning his living. And some individuals can accomplish this on a fairly high level of efficiency, since prefrontal lobotomy interferes relatively little with intellectual capacity as measured by standard tests(11).

#### CONCLUSIONS

1. Prefrontal lobotomy is less successful in schizophrenics than in certain types of patients who have preserved better contact with reality. Nevertheless, the operation offers definite hope for those who are still fighting their disease.

2. While many chronic patients cannot be discharged from hospitals, their care is greatly simplified because of their new objective outlook on life and pleasure in living.

3. Prefrontal lobotomy bleaches the affect attached to the ego and turns the patient's interest away from himself toward the outside world.

4. Prefrontal lobotomy is the procedure of last resort. This does not mean, however,

that it should be delayed until emotional deterioration is well advanced.

#### BIBLIOGRAPHY

1. Petersen, M. C., and Buchstein, H. F. Prefrontal lobotomy in chronic psychoses. *Am. J. Psychiat.*, **99**: 426-430, Nov. 1942.
2. Strecker, E. A., Palmer, H. D., and Grant, F. C. Study of frontal lobotomy; neurosurgical and psychiatric features and results in 22 cases with detailed report on five chronic schizophrenics. *Am. J. Psychiat.*, **98**: 524-532, Jan. 1942.
3. Bennett, A. E., Keegan, J. J., and Wilbur, C. B. Prefrontal lobotomy and chronic schizophrenia. *J. A. M. A.*, **123**: 809 (Nov. 27, 1943).
4. Schrader, P. J., and Hektor, E. F. Personal communication (170 cases).
5. Egas Moniz. Tentatives opératoires dans le traitement de certaines psychoses. Paris, 1936, Masson et cie.
6. Rizzatti, E., and Borgarello, G. La leucotomia prefrontale di Egas Moniz in 100 psicopatie gravi, di qui una metà comprensibili nel quadro della più completa dissociazione psichica. *Schizofrenie*, **7**: 241-267, 1938.
7. Hutton, E. L. Results of prefrontal leucotomy. *Lancet*, **1**: 362-366, March 20, 1943.
7. Golla, F. Range and technique of prefrontal leucotomy. *J. Ment. Sc.*, **89**: 189-191. April 1943.
7. Fleming, G. W. T. H., and McKissock, W. Prefrontal leucotomy; further contribution. *Lancet*, **1**: 361-362, March, 20, 1943.
8. Watts, J. W., and Freeman, W. Surgical aspects of prefrontal lobotomy. *J. Internat. Coll. Surgeons*, **5**: 233-240, May-June 1942.
9. Freeman, W., and Watts, J. W. The frontal lobes in relation to the ego and the future. *North Carolina M. J.*, **2**: 288, 1941.
10. Freeman, W., and Watts, J. W. Psychosurgery. Springfield, 1942, C. C. Thomas.
11. Porteus, S. D., and Kepner, R. D. Mental changes after bilateral prefrontal lobotomy. *Genetic Psychol. Monogr.*, **29**: 3-115, 1944.

## PRE-FRONTAL LOBOTOMY

### FIFTEEN PATIENTS BEFORE AND AFTER OPERATION<sup>1</sup>

JOSEF A. KINDWALL, M.D., WAUWATOSA, WISC.

AND

DAVID CLEVELAND, M.D.,<sup>2</sup> MILWAUKEE, WISC.

Pre-frontal leucotomy or lobotomy is a drastic, surgical attack upon human maladjustment, an attack that brings about a more profound change in the person than any other treatment hitherto used, though hardly a more profound change than that wrought by the mental illness which it is intended to arrest. The patient after the operation is not the same person as before the mental illness; but he is usually happier, more outgoing, and more at ease; often he is productive, and sometimes even more productive than before. In many cases, however, the illness can only be said to have been arrested, not eradicated. Though happier, easier to live with, the patient is not as able or complete a person as before his illness.

*Primum non nocere* should continue to be the watchword of the physician. But to alleviate suffering and, insofar as possible, to rehabilitate, is an equally sacred duty incumbent upon all. The performance of this duty cannot be undertaken without the exercise of some judgment and the assumption of some risk, whether it be in the removal of an appendix by a layman in a submarine, or in the surgical interference with the master organ itself, the brain. The physician cannot, any more than could Pontius Pilate, absolve himself by symbolically washing his hands and letting events run their course, when there is a possibility of helpful intervention; especially when other forms of therapy have been tried and found wanting.

We are reporting 15 patients, the first lobotomized April 1, 1942. Our patients range in age from 16 to 62 and show great differences in symptoms and diagnosis. Yet, they all had one characteristic in common,

the basis on which they were chosen; namely, an apparently hopeless prognosis. In the 16-year old, it was because of a malignant-looking withdrawal, silliness, stereotypy and unresponsiveness to shock therapy. The 62-year old was a delusional, dishevelled, bitter, combative woman, almost continuously in hospital for 18 years. The other cases seemed equally hopeless.

All except 4 had received shock treatment—insulin, metrazol or electric shock; some, all three; with only temporary improvement in most cases. All showed some degree of improvement after lobotomy. It remains to be seen whether this will be temporary, stationary or progressive. Experience has shown that there is a continuous change for months or years after lobotomy, with a tendency, in successful cases, for certain emotionally motivated patterns gradually to lose momentum and disappear. The therapeutic result depends on what remains.

Two patients, not included in the 15 here reported, died following lobotomy: one, a woman of 69, lobotomized June 26, and again secondarily July 10, 1943, died of pneumonia July 14, 1943. The second, a man aged 67, was lobotomized January 24, 1944 and died of pneumonia February 1. In both cases, pneumonia was classified as hypostatic, post-operative.

The histories of the 15 surviving patients are presented in the forms of graphs, running chronologically from the beginning of the patients' eleventh year of life to the present. Shading indicates degree of impairment of three qualities: working ability, social acceptability (grooming, speech, manners, attitude) and mental comfort (as well as one can judge). Shading also indicates hospital residence, and, when partial, some degree of freedom for visiting, shopping, etc., away from the hospital. We have felt that these were practical categories by which to evalu-

<sup>1</sup> Read at the Centenary Meeting of The American Psychiatric Association, Philadelphia, Pa., May 15-18, 1944.

<sup>2</sup> Professor of Neurological Surgery, Marquette University. Now Lt. Commander, M.C., U.S.N.R.

ate the effects of the operation. The vertical line marked Lo., with a date, gives the time of lobotomy. "A" refers to a brief description of the person's qualities before illness, "B" at the height of the disorder, and "C" as long after lobotomy as possible. The degree of shading is, of course, subject to the observer's opinion and judgment. The curves are not of the mathematical type, reducible to a formula. They represent impressions and estimates of trends shown by the patient.

The 15 patients are ranked in order of their relative degree of present adjustment on a scale of one to fifteen, the highest number being the best. A consensus of independent opinions of our staff was used in ranking them; there is, of course, room for error, but the rank given is fairly indicative. The cases are numbered, the lowest numbers being the first one lobotomized, but they are presented in order of their rank, the poorest results being presented first. It will be noted that the case-number and rank do not necessarily coincide; this is made clearer in the graph which summarizes the 15 cases with respect to their present status and the date of their operations.

Cases follow, in ascending order of success according to their status at the time of writing:

**RANK 1; CASE 8.**—Divorcee; lobotomy at 42, September 19, 1943. Continuously in hospital for 18 years, and three times before that; delusional, hallucinating, noisy, profane, obscene, disoriented; extreme management problem. Since lobotomy, slow, variable, but continued improvement, accelerated by electro-shock treatments. Now, usually gentle, courteous; but hallucinates, has occasional outbursts. Severe edema and trophic ulcers of feet following lobotomy; now almost healed.

**RANK 2; CASE 9.**—Spinster; lobotomy, September 20, 1943, age 59. Continuously in hospital 9 years, and twice before; compulsive, impulsive, catatonic, irritable, unresponsive. Return of posturing and blocking soon after first operation; second lobotomy March 16, 1944. Now slowly but definitely improving; reads, talks, smiles; ground privileges. Sister very pleased.

**RANK 3; CASE 13.**—College man, married, one son; lobotomy January 11 and January 15, 1944, age 43. Continuously in hospital for 10 years, and twice before. Mute, catatonic, hallucinating, occasional noisy and destructive outbursts; short lucid intervals, when he revealed delusions and phobias.

Vasomotor, pulmonary and clonic muscular attacks for 2 weeks following operation. Mutism,

grasp reflex, incontinence, gradually improving. Smiles and utters occasional (appropriate) phrase; walks vigorously, is helpful, but has set staring expression, no initiative; comfortable, amiable. Severe edema of feet after lobotomy, now subsiding.

**RANK 4; CASE 11.**—College girl, teacher; lobotomy September 14, 1943, age 32. Several times in hospital since age 27; continuously past 3 years. Delusions, hallucinations, impulsive, combative, screaming, blocking.

Following lobotomy; extreme perseveration, inertia; but laughing, friendly; shouting, spitting at times. Gradual and striking improvement, accelerated by electroshock. Now much quieter, presentable, but some stilted mannerisms in walking. Following lobotomy, edema of ankles, and marked tenderness; subsiding.

**RANK 5; CASE 3.**—Housewife; lobotomy March 3, 1943, age 53. Continuously in hospital 3 years, and once before; insidious onset at 47, with paranoid fears. Catatonic, tube-fed. Temporary improvement after electric shock.

Slow reaction after lobotomy, with prolonged incontinence, confusion, perseveration. Gradual improvement, comfortable, friendly, but said to be "deteriorating" in state hospital.

**RANK 6; CASE 4.**—Widow, age 62 at lobotomy, done April 28, 1943. A handsome woman before her illness, and since lobotomy; but dishevelled, witch-like, and unpresentable, during most of 18 years of almost continuous hospital life.

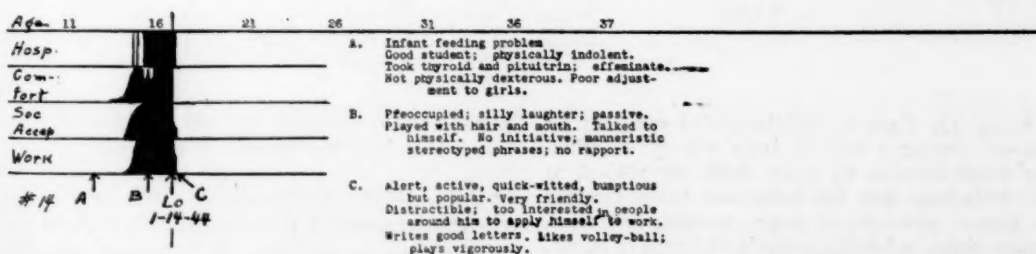
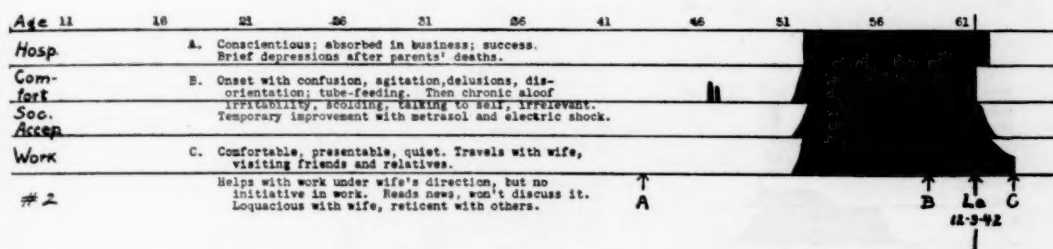
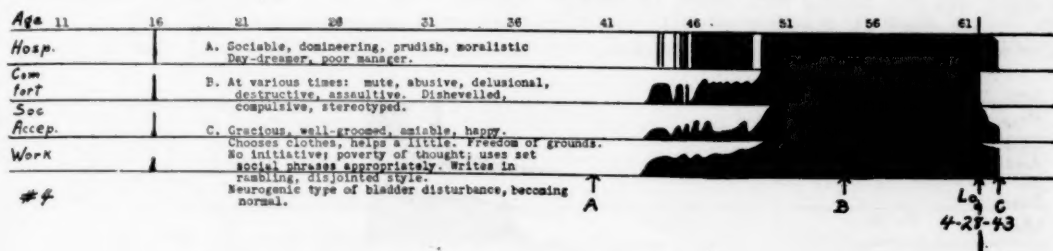
She was a sociable, but day-dreaming, moralistic, prudish woman, rigid and somewhat domineering, yet a poor manager. At 16, she had an overactive, elated episode and was hospitalized for 6 weeks. When patient was 43 her daughter died; following this, she became obviously depressed and almost mute, but she had shown some eccentricities before that. She gradually developed suspicions and delusions, and a year later was brought back from Europe and hospitalized. She was in a series of sanatoria; at each new admission she would be temporarily improved, then delusions would return. She felt persecuted, imagined she was offered the flesh of her daughter to eat, became abusive, combative, dirty, destructive of clothes and furnishings, exposed herself to cold, once froze her nose. She also had compulsive symptoms about cracks in pavement, entrances, etc., complained her back had been broken, and became conspicuously and grotesquely stooped, standing in one position, unkempt, stereotyped, nagging others about being tortured.

Lobotomy April 28, 1943. She showed the usual immediate release from tension and became progressively friendly, amiable, contented. An old kidney and bladder infection complicated sphincter control, but by the third month she was continent most of the time. She still perseverates a little in speech, and her letters are very jumbled. She is well-groomed, has selected becoming clothes, goes out to dinner in the city, accompanied; has limited freedom of the grounds. Her knitting is



very poor, full of mistakes, and though she reads papers and magazines, she cannot discuss them with any meaning. She has the appearance and graces appropriate to her social status, however, and shows no evidence of emotional distress. Her conversation, though gracious and friendly, is almost wholly void of any original thoughts. She is cooperative, an object of affection, and is no longer a distressing management problem.

**RANK 7; CASE 15.**—Country girl; lobotomy January 21, 1944, age 28. Psychotic 10 years; 9 years continuously in hospital. Hallucinating, noisy singing, rocking, lolling, pacing, nudism, mutism, wolfish eating, wet and soiled. Slight temporary improvement with insulin.



After lobotomy, rapid improvement in habits and neatness. Friendly, helpful, but taciturn; happy; continuing improvement. Relatives very pleased.

**RANK 8; CASE 2.**—Jewish merchant; lobotomy December 3, 1942. Continuously hospitalized 10 years. Acute onset with confusion, agitation, depression, fears. Tube-fed; then stereotyped, irritability, shouting, rasping voice, approachable only by wife; conspicuous management problem. Temporary improvement with metrazol and with electric shock.

After lobotomy, stage of apathy, then exuberance, then muteness. Continued improvement; now traveling with wife, happy, friendly; no productive initiative, but socially presentable.

**RANK 9; CASE 10.**—College girl, lobotomy September 20, 1943, age 27. Many hospitalizations since onset at 22. Psychoanalysis, insulin, electric shock without sustained improvement. Hallucinating, thought poison in food, blocked, catatonic, combative impulsive, lay nude, wet herself, smeared feces.

After lobotomy, quick reaction, early sphincter control and speech. Soon presentable, freedom of grounds, sociable, witty, friendly; reads and discusses good books; physically rather lazy. Discharged home April 29, 1944.

**RANK 10; CASE 7.**—Asthenic girl; lobotomy August 10, 1943, age 23. Onset at 22: seclusive, suspicious, tearful; auditory and visual hallucina-

tions, poison in air. Temporary improvement after electroshock and insulin shock; no insight.

Reacted quickly after lobotomy; friendly, but stilted. Discharged home; handles money, shops, but lazy. Hallucinations returned; readmitted and improved after electric shock, but rather silly; still has some hallucinations.

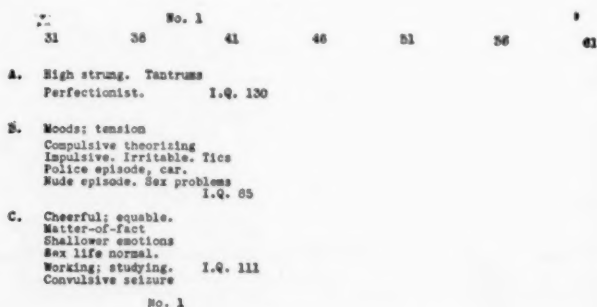
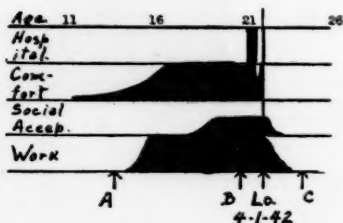
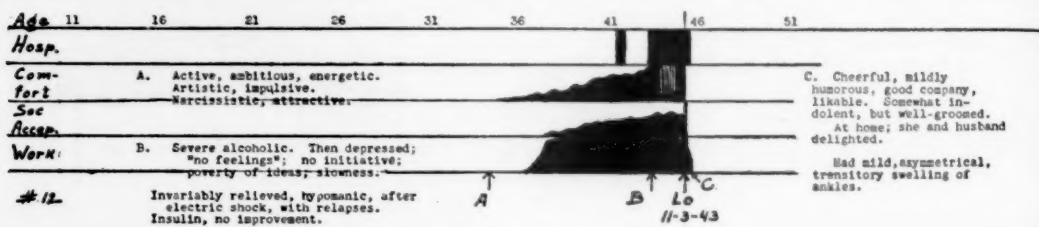
**RANK 11; CASE 14.**—High school boy; lobotomy January 14, 1944, age 16. Onset first year high school. Aloof, silly, stereotyped, passive, played with mouth and hair. Moderate temporary improvement with insulin and electric shock, then relapse into apparently hopeless inertia.

After lobotomy, trunkal ataxia, weakness, inertia at first; then rapid improvement, early sphincter

control. Very outgoing, friendly, talkative, alert; team-games and sports, well liked; distractible, hence not much work. Discharged April 30; now doing well in boarding school. Parents very pleased. Small trophic ulcers on feet, healed well; no edema.

**RANK 12; CASE 16.**—Non-psychotic, but incapacitated girl; lobotomy January 28, 1944, age 29. Since about 14, beset by fears and intense anxieties; sense of guilt, of failure and hopelessness. Unable to hold a job, or a man. Psychotherapy, dauer-schlaf, and electric shock gave only transitory and partial relief. One suicidal attempt. Begged for relief.

Quick reaction after lobotomy; completely comfortable; no fears or anxieties; well groomed, presentable, but lazy, blandly recalcitrant, rather giggly. Home April 23. Swelling of ankles and feet after lobotomy, has to wear size larger shoes.



**RANK 13; CASE 6.**—Well-traveled spinster; lobotomy August 7 and 10, 1943, age 46. Continuous hospitalization 13 years, with one abroad, at 26. Delusions that her body was being changed by others; outbursts of anger, aloofness, sarcasm, bizarre dress, volubility, scrawls on scraps of paper; in disturbed division. Maintained reading, study, musical interest.

Quick reaction to lobotomy, and very early sphincter control. Became modern in dress, well-groomed, cheerful, facetious, friendly, a bit exuberant. Inertia and teasing gradually improved. Referred to somatic delusions casually or teasingly. Quick but transient irritations. Happy, and with all the social graces, but somewhat impulsive and lavish.

**RANK 14; CASE 12.**—Married woman, lobotomy November 3 and 8, 1943; age 45. Fatigue and alcoholism at 40; abstinence for 2 years, but extreme inertia, depression, feelings of having no feeling, unreality, lack of life, no interest. Dauer-schlaf and insulin shock ineffective. Seven series

of electric shock—3 or 4 each—invariably restored energy, interest, mild elation, with invariable slump.

Quick reaction to lobotomy. Urinary incontinence rather prolonged, helped by pituitrin, finally ceased. Discharged February 5, 1944. Cheerful, witty, contented, still not much initiative; very well liked. Moderate edema of ankles after lobotomy.

**RANK 15; CASE 1.**—Young man; lobotomy April 1, 1942, age 22. Onset with compulsions and fantasies at 16; outbursts of anger, bad judgment; occasional nudism and other unconventional behavior. Could neither study nor work, yet high intelligence. Slight transitory improvement after insulin, but continued incapacitated.

Quick reaction to lobotomy; a series of phases: inertia, childishness, distractibility, exuberance, with some destructiveness. After a year, able to hold job. Now working and studying. Very

pleased and comfortable; so are wife and his parents. Has had one convulsive seizure.

The summarizing graph on page 753 shows the present status of the 15 patients as of the time of writing, and also the number of months since lobotomy in each case.

|   |    |
|---|----|
| Number of patients discharged.....            | 6  |
| Number making visits away from sanitarium...  | 2  |
| Number in boarding school.....                | 1  |
| Number with ground privileges in sanitarium.. | 1  |
| Number remaining (in sanitarium).....         | 5  |
| Total .....                                   | 15 |

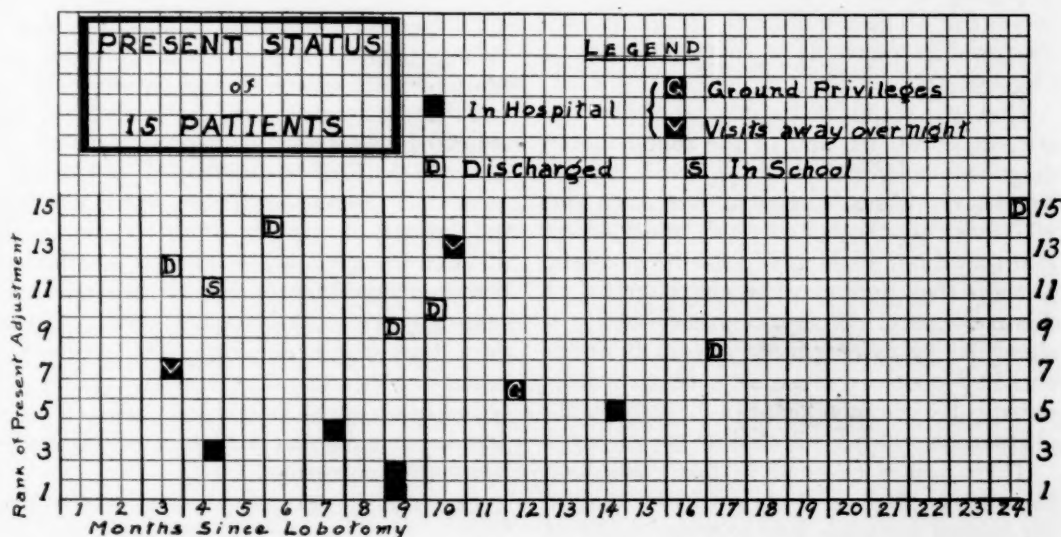
Some of the patients have only recently left the sanitarium; others have been out longer. Case 1, Rank 15, was discharged from hospital less than 2 weeks after operation, over 2 years ago, and has remained out

of hospital ever since. He is the only patient so far who has had a convulsive seizure.

So much for the case material. The purpose of prefrontal lobotomy is to sever the association pathways connecting the prefrontal lobe with the remaining ipsilateral hemisphere and, to an indeterminate degree, the contralateral hemisphere. The exact physiologic change accomplished by this procedure remains, as yet, somewhat of a question mark. The anatomic lesion is not, under present methods, identically patterned in all cases and may, in the future, undergo radical change. Experience may prove that the anatomic lesion must vary according to the

be watched, for them to retain unswallowed food and fluids in the mouth after feedings. If these are not removed, they may be inhaled and result in tracheal or bronchial infection.)

The operation of prefrontal lobotomy raises many problems in brain-anatomy and physiology, the study of which will eventually contribute much to our understanding of the so-called mental and emotional processes. The brain is a highly reactive organ, in a state of sensitive dynamic balance, no part being independent of the integrated whole. When one functional region is injured or eliminated, the change is reflected throughout the brain, and a new dynamic balance is



illness, or that limited incisions will suffice in place of the wide cuts now used.

The surgical dangers of prefrontal lobotomy are: (1) and of greatest importance—immediate or delayed hemorrhage; (2) visceral and thermo-regulatory disturbance; (3) danger of post-operative pneumonia, particularly in the older age group; (4) the possibility of infection, although this should be minimal; and (5) inhalation of unswallowed food and fluids if patient is not watched after feeding. (Nursing care is extremely important. The patients are, at first, incontinent, and sheets should be kept clean and dry; adequate protection should be used to prevent patients from falling out of bed or otherwise injuring themselves, and, while the patient should be given adequate food and fluids, there is often a tendency, which must

gradually achieved, more or less successfully, depending on the nature of the trauma, and the physiological capacity of the remaining brain tissue. Our brief case-reports reveal considerable variation in the way different patients react immediately following operation and later. A detailed study of these variations cannot be reported here, but promises to be illuminating.

We should like, however, to call attention to one complication that we have observed in several of our cases, with varying degrees of completeness. This consists of edema, blister-formation, and sometimes tenderness and pain in one or both feet or legs. These signs usually appear during the month following lobotomy. One of these symptoms may occur alone or with one or both of the others. The commonest is the pitting edema,



which is bilateral and sometimes asymmetrical. We believe that this is a trophic disturbance secondary to the surgical lesion.

We are not prepared to say what is the mechanism of this effect. The plane of section of the white matter in the frontal lobe approaches Brodman's areas 6, 8 and 32; it is conceivable that, in some cases, damage might result, through vascular impairment or otherwise, to the area having trophic influence on the lower extremity. On the other hand, the local tenderness and pain noticed in some of our patients, and the transient diabetes insipidus—like condition in 2 (one of them not in this series) might point to basal ganglia and hypothalamic system involvement. These questions are more fully discussed in a current paper by Ziegler and Osgood (8).

However sceptical one may be of psychiatric classifications, and of the time-honored diagnostic categories of schizophrenia, manic-depressive, obsessive-compulsive state, involutional psychosis, etc., one must admit that they differ strikingly in the symptomatic pictures they present when characteristic or relatively pure. If such a great variety of abnormal behavior can be favorably influenced by lobotomy, one must necessarily ask: What is the common factor in these disparate phenomena which is affected by the surgery?

There comes to mind in this connection the work of Sheldon *et al.* (4, 5) who analyze the human physique into varying blends of *endomorph*y, *mesomorph*y and *ectomorph*y, and who believe there is a high correlation between these physical types and corresponding blends of *viscerotonic*, *somatotonic*, and *cerebrotonic* temperaments. The predominantly cerebrotonic person, they find, is intensely conscious of himself in relation to others, and is hence subject to emotional stresses which, in the viscerotonic and somatotonic, are relatively rudimentary. The cerebrotonic tends toward introversion, while both the viscerotonic and somatotonic tend toward extraversion, though in different ways. Lobotomy tends to produce extraversion (2), and perhaps its anatomical and physiological significance lies in that realm where correlation between the ectomorphic physical type and the cerebrotonic temperament exists.

In a recent article, Rennie (3), discussing the value of sub-shock doses of insulin for its sleep or rest-inducing value, in a variety of conditions, has stressed the common factor of anxiety. It seems well established that lobotomy, above all, allays anxiety. This, then, may be another facet of the common factor revealed through the effects of the lobotomy operation.

It is a matter of common experience that strong emotion—embarrassment, fear and other excitement—may produce a confusion of thought and speech, even to the point of irrelevance and silliness in extreme cases. In such a situation, the symbolizing and communicating mechanisms are obviously being disturbed by the impact of some powerful unbalancing force. We also see confusion, irrelevance and silliness in psychotic patients, but for prolonged periods instead of for transient moments. It may be fruitful to ask, and by further observation and experiment to try to answer the question: whether the impact of prolonged severe emotional disturbance upon nerve-cells or functioning neuron-groups may, under certain conditions, cause physiological damage to them, perhaps even irreversible damage. The much-disputed and questionable term "psychotic deterioration" might in that case acquire some definite meaning, as a sort of selective exhaustion-phenomenon.

One can imagine this occurring in our Case 4, who for 20 years suffered a stormy, bitter, fearful, delusional psychosis, and who is now, since lobotomy, a cheerful, courteous, comfortable woman, but almost devoid of initiative or ideas, and capable of only the simplest routine tasks. She is an object of affection, but entirely passive. On the other hand, Case 12 is that of a woman who, since her lobotomy, is not only cheerful, comfortable and courteous, but has ideas, a ready wit and a grasp of current affairs, and contributes socially both in word and deed.<sup>3</sup>

<sup>3</sup> For discussions of various aspects of the prefrontal lobotomy operations, the reader is referred to the following representative publications, which, in turn, will supply further references to this new field: Psychosurgery, by Freeman and Watts (2), is a monograph of over 300 pages discussing the history and technique, and presenting case material. Its bibliography is brought up into 1941. The authors also discuss fundamental questions of anatomy,

## SUMMARY

The 15 cases reported range in age from 16 to 62, and presented a wide variety of symptoms, from apparent psychotic deterioration to a chronic but non-psychotic tension state. These patients were all considered to have a hopeless prognosis and most of them had been in hospital for many years, one continuously for 18 years. All but 4 had received one or more forms of shock treatment.

The first lobotomy operation of the series was performed April 1, 1942, the last on January 28, 1944; hence the report cannot deal with end-results. However, the first patient is gainfully employed for the first time in his life, but has had a convulsive seizure; 5 of the others are with their families, comfortable and socially acceptable; one of them doing regular housework. One patient is attending a special school. The rest are still in hospital but one of them has freedom of the grounds, not possible before, and makes day-visits away from the hospital. None of the 15, so far, was made worse, and all showed some degree of improvement. Two aged patients, not included in this series, died of post-operative hypostatic pneumonia.

Each patient's history is presented as a graph representing onset of illness, the time of hospital residence, and the patient's status

psychopathology, and the psychiatric categories. Ziegler(7) has published a brief but comprehensive compilation of reports from many sources on 618 patients, grouping them in a table according to results. Walker's(6) comparison—purely statistical also—of the results of lobotomy, shock therapy, and "psycho-therapy" is interesting, but not easy to evaluate. Bennett, Keegan, and Wilbur (1) present five cases, a discussion of technique and indications, and a compilation of 582 cases from various sources. Other papers bearing on this subject are numerous, and need not be listed here.

in the categories of mental comfort, social acceptability, and capacity for work, before and after lobotomy. (Only 5 representative graphs are reproduced here.)

The technique of the operation, its dangers, and the anatomical considerations involved are briefly discussed.

It is suggested that anxiety may be an important common factor in a wide variety of syndromes, allayed by lobotomy; and that the operation may intervene to modify the physical basis for a pathogenic degree of "cerebrotonia."

In some cases, edema and/or tenderness and blister formation appeared during the month following lobotomy, and is thought to be a trophic disturbance of central origin.

There has also been transient diuresis with low specific gravity, in connection with prolonged or periodic enuresis.

## BIBLIOGRAPHY

1. Bennett, A. E., Keegan, J. J., and Wilbur, C. B. Prefrontal lobotomy in chronic schizophrenia. *J. A. M. A.*, 123: 809-813. Nov. 27, 1943.
2. Freeman, Walter, and Watts, James W. Psychosurgery. Charles C. Thomas, 1942.
3. Rennie, Thos. A. C. Use of insulin as sedation therapy: control of basic anxiety in the psychoses. *Arch. Neurol. & Psychiat.*, 50: 697-705, Dec. 1943.
4. Sheldon, W. H., with S. S. Stevens and W. B. Tucker. The varieties of human physique. Harper and Bros., 1940.
5. Sheldon, W. H., with S. S. Stevens. The varieties of temperament. Harper and Bros., 1942.
6. Walker, A. Earl. Psychosurgery. *International Abstract of Surgery (S. G. & O.)* 78: 1-11, Jan. 1944.
7. Ziegler, Lloyd H. Bilateral prefrontal lobotomy. *Am. J. Psychiat.*, 100, No. 2: 178-179, Sept. 1943.
8. Ziegler, Lloyd H., and Osgood, Carol W. A complication of prefrontal lobotomy. Read at meeting of the Chicago Neurological Society, May 9, 1944.

## THE MEDICAL VIEW OF THE MENOPAUSE

TREVOR OWEN, M. B., F. R. C. P. (LOND.), F. R. C. P. (C).

*Consultant in Medicine, Toronto Psychiatric Hospital*

The menopause occurs in both sexes. In the female the alteration takes place comparatively rapidly and cessation of menstruation is the striking change. The purpose of the menopause is to end the possibility of reproduction since pregnancy and labour would expose ageing tissues to severe physical risks. It is a means of preservation. As usual, a good margin of safety is provided so that twenty to thirty years remain before dissolution ends her usefulness to the youngest possible offspring. In the male, the problem of reproduction incurs no similar risks. Spermatogenesis, therefore, continues, slowly diminishing with age. The associated changes are also gradual and the menopause in the male, though definite, is less impressive—with very rare exceptions.

The period of puberty is the antithesis of the menopause. As between the sexes it needs no such careful timing, waiting merely for the accumulation of some experience with the external environment and for the intelligence to mature.

Any alteration in the individual as a whole means that primitive and basic mechanisms of the mid-brain are changing. These constitutional functions are those of temperature regulation, vasomotor control, sugar and fat metabolism, together with the general metabolic rate of the body and the elaboration of the thyreotrophic, adrenotrophic, gonadotrophic hormones and "growth substances" all of which are intimately connected with the pituitary gland and hypothalamus. As is usual with biochemical reactions, the substances and stimuli from these areas probably serve multiple and complex purposes making it most difficult or impossible to assign a limited rôle to any one. To this is added the secondary effects from the lesser endocrine organs and their intimate fusions with the autonomic nervous system. When fully developed this whole chain of biochemical and nervous relays becomes an infinitely variable and adjustable automatic set of rhythms. In normal puberty a smooth evolu-

tion takes place and a general balance between all these factors is established.

No arbitrary line can be drawn between normal and abnormal puberty. There may be much concern over some of the variations. Plump children may become thin and skinny children plump. Some grow slowly while others shoot up inches in a year. The sugar metabolism is unstable and the thyroid is often visibly enlarged. The vasomotor system is very labile and fainting is not uncommon, wrongly ascribed frequently to an anaemia. During these years the blood pressure rises gradually. There is a change of interests and in point of view. Energetic socialistic trends are common, disturbing some parents. Those that inherit allergic or migrainous tendencies show examples of the substitution of one form for another. For example, childhood asthma may disappear and be replaced by hay fever only. In others the cyclic bilious attacks cease and are replaced by migraine headaches or adolescent dysmenorrhœa.

In the normal menstrual cycle complex vegetative changes of a mild kind occur. There is a steady rise in metabolic rate, a rise in temperature, pulse and blood pressure, with an increase in the excretion of urea, up to two days before the flow. There is then a fall, after which a slow rise again begins.

In abnormal puberty variations in development are excessive in degree. The Frölich type is common with great increase in weight and the maintenance of the childish proportions between trunk and limbs. The secondary sex characteristics are delayed, the sugar tolerance is too high. Menses are late. Of these the vast majority become average normal adults.

Giantism may occur and it is possible that pituitary tumours may commonly begin at this time or about the menopause though symptoms of pressure may be delayed. It is also well known that functional amenorrhœa, or excessive menstruation may occur



temporarily when there has been a change in the physical or psychological environment. The adolescent goitre, with or without mild hyperthyroidism, is another example of an excessive swing of function. Others may have great variations in the metabolic rate, 20 to 30 percent below normal and back again but this is probably not a primary thyroid effect. One patient had hyperinsulinism during puberty but this adjusted itself spontaneously after a while. In short there is a variety of temporary eccentricities and imbalances of all these vegetative functions. Many suggest structural alterations but purely biochemical lesions are quite common and revert to normal or are compensated for without organic change.

With this picture in mind, indicating that menstrual function is dependent on something more fundamental than the tissue and hormone changes in the reproductive organs themselves we may consider the menopause. Many of the problems can be correlated with those arising in puberty and we can readily understand why œstrin administration could not possibly be expected to solve any but those directly due to œstrin deprivation. The most satisfactory effect of œstrogenic substances is on the vasomotor symptom of hot flushes and, from a purely medical standpoint, this is the only characteristic symptom of œstrin lack. The essential cause may be an excess of the gonadotrophic hormone in the circulation. It can be made to disappear by the administration of œstrin. The flushings seem to occur when the gonadotrophic hormone is at its highest concentration. This may explain why such severe hot flushes are sometimes experienced during an artificial menopause. This does not produce a complete picture of a natural menopause. The hypothalamic (and pituitary) hormones and stimuli remain as before and the mechanism is grossly off balance. Presumably, the gonadotrophic hormone will be present in much greater concentration than at the normal menopause when the main change is taking place centrally. This may be offset in some cases by œstrin production in places other than the ovary, for which there is some evidence. In the natural menopause the hot flushes may be severe if the lessening production

of gonadotrophic hormone is not proportional to the lessening power of the ovary to produce œstrin. While stilbœstrol works well in most instances it may be helpful to use the total œstrogens. While not influencing any other symptoms or changes in the menopause the relief of the vasomotor symptoms will naturally relieve a good deal of the irritability and anxiety. Hot flushes of the same kind occur in the male after castration.

The instability of the vasomotor system is seen in the increased severity of migraine during the menopause and may be a serious problem for a while. It is made worse by too much drug-taking because drugs play havoc with the vasomotor mechanism in any case. Œstrin definitely helps migraine in some patients. The complete banishment of migraine after the menopause shows what a transformation has come about. The migraine headache may be replaced by the gastro-intestinal spastic symptomatology (with mucous colitis) of the migrainous allergic personality.

The onset of essential hypertension is another problem of the menopause of which we have little understanding and less control. A few cases are temporary, more become permanent and a certain number go on to a malignant stage and die of arteriolar necrosis in kidney or brain or have congestive heart failure within a few years of the beginning of the menopause.

Continuing our parallel with the separate features of puberty we find: the sugar and fat metabolism is altered and the patients change in shape and put on weight.<sup>1</sup> The fat distribution often imitates the Frölich type as in puberty, most of it being around the shoulders, chest, hips and thighs. The fat deposits may be painful like the painful fat of *adiposa dolourosa* of Dercum. Desiccated thyroid does not help the condition. The sugar tolerance rises and though the

<sup>1</sup> "Fading is the taper waist,  
Shapeless grows the shapely limb  
And although securely laced,  
Spreading is the figure trim.  
Stouter than I used to be  
Still more corpulent grow I,  
There will be too much of me  
In the coming by-and-by."  
("Patience"—W. S. Gilbert)

metabolic rate goes up, only by dieting persistently can the deleterious rise in weight be combated. This obesity and that at puberty and after pregnancies are obesities of the qualitative kind as contrasted with the quantitative obesities from too much food. The rapid growth of the skeleton in puberty is paralleled and represented in the menopause by retrogressive skeletal changes of cartilage and bones. This trophic change is due, possibly, to the diminishing supply of "growth hormones" or whatever substance-complex serves that end, which, even after growth has ceased in the twenties, is essential to the healthy state of the joints. This lack of growth hormone or hormones, rather than any change in the vascular supply probably produces the rapid form of osteoarthritis (and bursitis) with the appearance of painful Heberden's nodes. This process has nothing to do with infection or foci of infection. After a temporary disability this affection dies down as osteoarthritis always does and the treatment is on normal lines. Reduction in weight is the most beneficial. In the male quite similar regressive joint changes appear probably from the diminishing supply of "growth hormones" but, like lessening spermatogenesis, it is a gradual milder process, without any sudden transformation which, in the female, has earned it the name of "menopausal arthritis."

The thyroid gland often degenerates. It may become colloid or adenomatous but may never become toxic; in fact only an occasional one ever does.<sup>2</sup> It is unwise to remove the gland for prophylactic reasons

<sup>2</sup> It is so easy to make a laboratory test shoulder the blame for a wrong diagnosis. The pitfalls in the estimation of the metabolic rate cannot be too often emphasized. Some of them are: (a) a true basal reading on nervous or apprehensive people is difficult and sometimes impossible to obtain, even with repeated tests. On any patient with a tremor it is quite impossible. (b) Tracings which show irregular respirations make the measurement of oxygen consumption largely guesswork. (c) Some people's respiration is completely upset by having a nose clip applied. (d) Mechanical errors are not uncommon.

One ventures to suggest that in the very cases where an estimation of the basal metabolic rate appears essential to establish the diagnosis of suspected hyperthyroidism, the result of the test may so often be misleading.

and useless to remove it in the hope of relieving nervous or mental illness occurring at the menopause. On the other hand, spontaneous myxoedema may develop and if it does, this thyroid atrophy occurs more often early than late in the menopausal decade. Severe uterine bleeding is sometimes associated with myxoedema.

Growth of superfluous hair on the face and elsewhere may be due to adrenal changes or possibly the disclosure of androgenic tissue in the not uncommon bivalent individual. That is, varying degrees of masculinity may appear since many women are not entirely feminine and, too, many men are not entirely masculine.

The psychic problems of the menopause are largely anxiety neurosis, dependent on constitutional, psychogenic and physical factors. The rôle of biochemical changes in psychoneurosis is not yet understood but there is no doubt that in unsteady biochemical states, as in mild toxæmia or convalescence, the constitution so beset is more vulnerable to adverse psychogenic influences whether endogenous or exogenous. Boredom, loneliness and self-pity, the change in physical habitus and all that it implies, the fear of the menopause, the multiple dislocations of personal relationships and sphere of interest, the realization of automatically entering the previous generation—all these require rather abruptly an adjustment in point of view which some may be unwilling and some unable to accept without the struggle which is the neurosis. In part, this struggle may represent a lack of intellectual maturity (which the patient now may realize she has neglected to acquire) or an example of an inherent instability with failure to learn self-responsibility and self-discipline enough to provide the average maximum of comfort consistent with a particular personality and its environment. The presence of physical symptoms adds a further cause for anxiety especially if treatment seems unhelpful.

No psychosis can be said to be characteristic of the menopause. Depression is often a prominent symptom of anxiety and it is important to distinguish this fact. The only practicable differentiation between a psychoneurosis and a psychosis is that, provided

the causes can be really exposed, the former may often be startlingly improved by suitable psychotherapy, while a psychosis can not. In the depressions that sometimes occur with the menopause, other factors subtly associated with the constitution are more responsible than the temporary biochemical changes of that particular epoch.

#### SUMMARY

This then is the medical view of the menopausal epoch which transforms the physical and psychic personality of an individual. It is a series of regressions in those functions of growth and maturation which appeared at puberty and are now in a certain way reversing themselves. When problems do arise it is because the new changes are not moulding themselves harmoniously and evenly. The normal menopause like normal puberty is evolutionary, but the abnormal has become revolutionary, until the many facets of the new biochemistry settle into that new compromise governmental arrangement which is the altered person. We need to know and to be able to measure and record simultaneously all the various stimuli and hormones coming from and going to the hypothalamic region. Until we can do this

and have potent substances to use, we cannot expect to make good the deficiencies or to suppress or counterbalance the excesses of deteriorating irritable tissues in order to relieve the discomforts which go with them. We can do these things in diabetes, because we have insulin; in myxœdema and in toxic adenoma, because we have a potent substance in desiccated thyreoid, and we can remove a toxic adenoma. Of course, these are early days of endocrine chemistry. In the menopause, at this date, we have to leave the patient's chemical processes largely to their own devices. And so the most important treatment to follow, as in many other uncomfortable episodes of living, is psychotherapy. This is really explanation plus discipline. As ever, the way to do this successfully is to have a knowledge of your subject which entitles you to speak with conviction, to be sincerely sympathetic and to talk in common-sense terms about the present and the future—not the past. One must take time to do it; for an hour spent on positive and purposeful psychotherapy will save a great many hours later on—perhaps by someone else. It is helpful to give a small dose of phenobarbital three times a day; bromides are not as good.



# A FOLLOW-UP STUDY ON 93 COLLEGE STUDENTS WITH EPILEPSY<sup>1</sup>

LEONARD E. HIMLER, M.D., AND THEOPHILE RAPHAEL, M.D.

*Ann Arbor, Mich.*

In a previous report(1) it was stated that the incidence of epileptic disorders for the student population at the University of Michigan was 0.06 percent. This is equivalent to one epileptic for every 1670 regularly enrolled students. Epileptic conditions accounted for 1 of every 95 students seen (1.05 percent) by the mental hygiene unit of the University of Michigan Health Service over a twelve-year period(2).

The present summary is based on follow-up information on a total of 93 students who attended the University of Michigan in the thirteen-year span between 1930 and 1943. Of this number 67 (72.0 percent) were men and 26 (28.0 percent) were women. Seventy of the group had grand mal attacks only, 5 had petit mal only, 15 had both grand and petit mal, and 3 had grand mal and psychomotor attacks. Five are still in attendance at the time of this writing.

The ages at which seizures began ranged from birth to 33, the average onset for the series as a whole being 16.8 (median 17.0) years. For the men the average age of onset was 16.6 and for women 17.3, the median for each separately being 17.5 years. There was thus no significant difference in the time of onset between men and women. Seizures were present since birth in 2, and there was a history of infantile convulsions in 5 others who had no further attacks until the onset of typical grand mal after the eighteenth year. The average age at which students in this series first came to the attention of the mental hygiene unit while attending the university was 22.6 years.

All of these students had complete physical and laboratory examinations while they were under observation, and the majority also were referred for neurological and roentgenological examinations. In every case

the diagnosis was verified either by observation of actual attacks while students were on the campus or by reports from physicians having them under treatment. All but 4 actually had characteristic attacks sometime during their stay in the university. Typical interseizure patterns were obtained in all but 5 of the 30 who had electroencephalographic examinations. As shown in Table 1, so far as etiological factors could be determined, 76.3 percent were classified as "idiopathic," and in 23.7 percent seizures were

TABLE 1

ETIOLOGICAL FACTORS (EXCLUSIVE OF HEREDITY)

|  | Number of cases | Per-cent |
|--|-----------------|----------|
| No cause determined ("idiopathic")..           | 71              | 76.3     |
| Onset following severe head trauma..           | 6               | 6.4      |
| Related to toxic states (alcohol).....         | 5               | 5.4      |
| Possible endocrine relationship.....           | 5               | 5.4      |
| 3 associated regularly with menses             |                 |          |
| 2 associated with hypoglycemia                 |                 |          |
| Associated with organic C.N.S. disorders ..... | 6               | 6.4      |
| 1 birth injury                                 |                 |          |
| 1 brain abscess                                |                 |          |
| 1 brain tumor                                  |                 |          |
| 1 congenital defect                            |                 |          |
| 1 pachymeningitis                              |                 |          |
| 1 post-encephalitis                            |                 |          |

considered as "symptomatic" in origin. As previously reported(1), in a considerable number of instances there was fairly direct association of attacks with increased fatigue, irregular habits, alcoholic over-indulgence, academic stress, and excessive outside work. Such occurrences serve to reemphasize that the management of epileptic patients requires as much or more care for personality and adjustment factors as for the medical aspects. This is particularly true of young patients of the college age, many of whom have understandable difficulty in accepting and assimilating the medical and social problem presented by their special vulnerability to attacks.

The comparatively uniform environment

<sup>1</sup> Read at the Centenary Meeting of The American Psychiatric Association, Philadelphia, Pa., May 15-18, 1944.

From the Student Health Service, University of Michigan, Ann Arbor, Mich.



and the controlled medical supervision provided by the college setting gave an excellent opportunity for observing both clinical and academic outcomes. All but 6 of the students in this series also had contact with the mental hygiene unit. On the basis of contacts so established, the personal, social and vocational adjustments of 85 in the series were studied for periods ranging from less than a month to 12 years, the average time interval between first and last contacts being 2.74 years. In addition, on the basis of later correspondence, the average total time over which progress in these 85 cases was followed reached 4.24 years. No follow-up information was obtained in the case of 8 who were seen only on one occasion. Table 2 gives the duration of personal

TABLE 2

TIME 85 EPILEPTIC STUDENTS WERE FOLLOWED

|                           | Personal contacts | Personal contacts and correspondence |
|---------------------------|-------------------|--------------------------------------|
| One month or less.....    | 19                | 5                                    |
| Two to six months.....    | 13                | 5                                    |
| Six months to one year... | 10                | 10                                   |
| One to two years.....     | 11                | 12                                   |
| Two to three years.....   | 10                | 9                                    |
| Three to four years.....  | 5                 | 4                                    |
| Four to five years.....   | 3                 | 5                                    |
| Five to six years.....    | 3                 | 8                                    |
| Six to seven years.....   | 5                 | 9                                    |
| Seven to eight years..... | 2                 | 8                                    |
| Eight to ten years.....   | 2                 | 5                                    |
| Ten to twelve years.....  | 2                 | 5                                    |

contacts and the time interval covered by later correspondence.

Table 3 presents a summary of the overall results as to frequency of attacks at the end of the period of university attendance and also up to the time former students were last contacted in 1943 and 1944. It is to be noted that the proportion showing appreciable improvement while in residence is 29.0 per cent, while in the follow-up group this number reaches 52.7 per cent. This difference may be accounted for largely by the fact that the college undertaking is often a trying one for the epileptic student, and may at first be accompanied by increased attack frequency. In such instances an extended period for observation and readjustment of medical treatment is required before

the degree of improvement can be estimated. Bearing on this point, our experience has convinced us of the general rule that if seizures are controlled during the college years, subsequent relapses are not likely to occur as long as the same treatment procedures are maintained. Also, it should be noted that introduction of dilantin medication accounted for a considerably higher proportion of improved outcomes in cases treated after 1938.

In 26 cases no medication was given, either because the period of observation was too brief or because only one isolated attack occurred during the period of residence at college. Three other students had discontinued medication previous to coming to college and remained free of attacks during the period of residence. It is of interest that

TABLE 3

OUTCOME WITH RESPECT TO FREQUENCY OF ATTACKS

|   | Course while in university |          | Subsequent course up to 1943-1944 |          |
|---|----------------------------|----------|-----------------------------------|----------|
|   | No.                        | Per cent | No.                               | Per cent |
| Very much improved or apparently recovered. | 9                          | 9.7      | 26                                | 28.0     |
| Improved .....                              | 18                         | 19.3     | 23                                | 24.7     |
| Unimproved .....                            | 26                         | 28.0     | 7                                 | 7.5      |
| Indeterminate or unknown .....              | 39                         | 41.9     | 34                                | 36.5     |
| Deceased .....                              | 1                          | 1.0      | 3                                 | 3.2      |

in the case of 6 idiopathic grand mal patients who had only one known attack up to the time they left college, subsequent information revealed that 2 remained free for 1½ years, 1 for 2 years, 2 for 5 years, and 1 for 9 years, without medical treatment of any kind. One of these is now in military service. Another who had his first grand mal seizure at the age of 18, had no further attacks until 12 years later, at which time he was a captain in the Army.

Where anti-convulsant medical treatment is indicated, dilantin has proved to be so much more effective in our experience that it has almost entirely replaced the sedative drugs formerly used. Among the 64 in our series who were treated with drugs, there are but two outstanding successes which can be attributed to phenobarbital—one graduate

who has been free of grand mal for 15 years, and another who has had no attacks for 6 years. In the past 5 years we have had opportunity to follow 24 students who were placed on dilantin. Fifteen of these are markedly improved, being free of attacks for periods ranging from 10 months to 3 years. Three others have been free of attacks except for isolated instances when medication was forgotten, omitted, or the prescription was not renewed in time. Four others took dilantin too irregularly to judge results fully,

44 or 47.3 percent graduated. Among these were 3 with medical degrees, 6 with law degrees, and 8 with masters' degrees. If those still continuing and those who could continue are added to those who graduated, the total number who were capable of creditable work in the University reached 65 or 69.9 percent.

Table 6 gives the vocational and occupational adjustments made by 63 concerning whom this information was available at the time of the study. Of these, 54 have made

TABLE 4

## ACADEMIC AVERAGES

|   | Number of cases | Per-cent |
|---|-----------------|----------|
| Satisfactory grades (C+ and over)...              | 49              | 52.7     |
| Fair grades (C to C+).....                        | 14              | 15.1     |
| Unsatisfactory grades (below C).....              | 22              | 23.6     |
| Did not remain long enough to secure grades ..... | 8               | 8.6      |

TABLE 5

## UNIVERSITY STATUS UP TO SPRING TERM 1944

|  | Number of cases | Per-cent |
|--|-----------------|----------|
| Graduated .....  | 44              | 47.3     |
| Continuing in the university.....  | 5               | 5.4      |
| Not at present in attendance but with no actual contraindication on basis of university requirements ..... | 16              | 17.2     |
| Unable to continue in the university..   | 28              | 30.1     |
| 4 because of increased frequency of attacks  |                 |          |
| 8 because of epilepsy and scholarship  |                 |          |
| 15 because of scholarship or other administrative reasons  |                 |          |
| 1 deceased (status epilepticus)  |                 |          |

but variable improvement was noted. In the remaining 2 there was no regularity in taking the drug and improvement was slight.

A survey of the academic averages of the group, as shown in Table 4, indicates that 63 (67.8 percent) earned acceptable grades, and that 23.6 percent did unsatisfactory college work. Although the 26 women in the series are too few for accurate comparison, it is interesting that 22 of them did acceptable work and only 4 received unsatisfactory grades.

The final outcomes with respect to university status up to the spring of 1944 are shown in Table 5. It is noteworthy that

TABLE 6

## PRESENT OCCUPATIONS OF FORMER COLLEGE STUDENTS WITH EPILEPSY

|  | Men | Women | Total |
|--|-----|-------|-------|
| Accountant .....                         | 4   | 0     | 4     |
| Attorney .....                           | 4   | 0     | 4     |
| Clerical and secretarial.....            | 3   | 3     | 6     |
| Dental hygienist .....                   | 0   | 1     | 1     |
| Drafting .....                           | 2   | 0     | 2     |
| Engineering .....                        | 4   | 0     | 4     |
| Factory work (skilled)....               | 2   | 1     | 3     |
| Housewife .....                          | 0   | 5     | 5     |
| Inspecting .....                         | 0   | 1     | 1     |
| Librarian .....                          | 0   | 2     | 2     |
| Machinist .....                          | 1   | 0     | 1     |
| Military service .....                   | 9   | 1     | 10    |
| Newspaper reporter .....                 | 1   | 0     | 1     |
| Nurse .....                              | 0   | 1     | 1     |
| Photographer .....                       | 1   | 0     | 1     |
| Physician .....                          | 4   | 0     | 4     |
| Teacher .....                            | 4   | 4     | 8     |
| Technician (1 laboratory, 1 radio) ..... | 2   | 0     | 2     |
| Salesman .....                           | 1   | 0     | 1     |
| Unskilled work .....                     | 1   | 1     | 2     |
|  | 43  | 20    | 63    |

entirely satisfactory personal adjustments, 3 have chronic neurotic reactions, 4 show basic personality instabilities, and only 2 are known to be deteriorated, one with paranoid elaboration. Three of the original series are known to have died, 2 in status epilepticus. Five of the 13 known to have entered military service hold commissions, and at this writing only 3 have received medical discharges because of recurrence of attacks. Twenty-nine of the men are permanently in the IV-F draft classification.

From the above it is evident that the presence of seizures in individuals with higher intelligence need not necessarily constitute a barrier to academic training on the college

level or to successful personal, social, and vocational adjustment after leaving college. In a considerable number of instances seizures in the college group seem to run a relatively benign course, developing at a later age than the general average, recurring less frequently, and responding more favorably to medical and neuropsychiatric care. Especially marked improvements in clinical outcomes have occurred since the advent of phenytoin sodium.

Any plan as to type of school and program of study is of course as much a matter for

individual handling as the medical and psychiatric treatment, and can be carried out constructively only if the total situation is cooperatively approached by the patient, his parents, his physician, the college, and all others who have a real interest in his welfare.

# BIBLIOGRAPHY

1. Himler, L. E., and Raphael, T. Epilepsy among college students. *Ment. Hyg.*, **24**: 459-468, July 1940.
2. Raphael, T., and Himler, L. E. Schizophrenia and paranoid psychosis among college students. *Am. J. Psychiat.*, **100**: 443-451, January 1944.

GE

Total

4  
4  
6  
1  
2  
4  
3  
5  
1  
2  
1  
10  
1  
1  
1  
4  
8  
  
2  
1  
2  
—  
63

ents,  
show  
2 are  
noid  
s are  
icus.  
mili-  
this  
dis-  
acks.  
ly in  
  
pres-  
gher  
ute a  
llege

## INTELLIGENCE OF NORMAL AND EPILEPTIC TWINS<sup>1</sup>

WILLIAM G. LENNOX, M.D., AND A. L. COLLINS, Ph. D.

*Boston, Mass.*

Preservation of a normal mentality is even more important to the epileptic than prevention of his seizures. Although only the minority of epileptics become mentally deteriorated, it is important that the causes of deterioration be known in order, if possible, to circumvent them. Deterioration, when it occurs, may be due either to acquired conditions or to heredity. Important acquired conditions are: brain injury which antedates or is a sequel of seizures, excessive drug therapy, and social-psychological depressants. Data dealing with these factors, derived from analysis of the histories of some 1900 non-institutional patients, have already been published by one of us (1, 2). The importance of heredity was suggested by the finding that both epileptic and mentally affected persons were more numerous among the relatives of epileptics who were mentally defective at birth than among the relatives of patients who were mentally normal at birth. Also, acquired pathology of the brain greatly accelerated mental deterioration.

The most direct and convincing evidence of the relative importance of genetic and acquired influences is gained from a study of twins. In monozygotic twins the heredity is the same and in dizygotic twins it is variable. If any characteristic, physical or mental, appears in both of monozygotic co-twins, and in only one of dizygotic co-twins, this characteristic is predominantly genetic, and is called an hereditary trait.

That intelligence is an hereditary trait has been demonstrated by numerous workers. In a study of 50 monozygotic and 50 dizygotic normal twins, Newman (3) developed

a formula which expressed the relative importance of heredity in producing the characteristic under consideration. He concluded that heredity was responsible for the score obtained in tests of intelligence to the extent of 80 percent for the Otis test and 68 percent for the Binet. Following is the coefficient of correlations of intelligence for various degrees of relationship as reported by Sandiford (4): Identical twins .90, like sexed twins .82, fraternal twins .70, unlike sexed twins .59, siblings .50, parent and child .30, unrelated .00. Though there have been individual case reports, we have encountered no report of the intelligence of groups of twins affected by seizures. One of a pair of twins reported by Hobbs (5) had had post-encephalitic grand and petit mal for seven years, yet his I. Q. of 124 was one point higher than that of his normal twin. Three of the epileptic monozygotic twins of our series had been examined also by other workers, these are (Table I) Can reported by Hobbs (5) as hysteria, Far by Fabing (6) and Par by Freeman (7).

Studies of Lennox, Gibbs and Gibbs (8) have demonstrated that the brain wave pattern is an hereditary trait. The present paper is a portion of a continued investigation in which electroencephalograms were made of 101 twins and one triplet. Results of these brain wave studies will be reported by the above authors elsewhere. Rorschach tests were made also of 55 twins. We will report these results later.

### SUBJECTS AND METHODS

Decision as to whether twins were monozygotic or not was based on the usual criteria, evidence when obtainable of the placenta and membranes, and study of the various physical characteristics which have been shown to be hereditary traits. Twin subjects were secured through personal contacts and newspaper publicity, and hence were not entirely unselected. Thus, of the 205 persons in the

<sup>1</sup> Read at the Centenary Meeting of The American Psychiatric Association, Philadelphia, Pa., May 15-18, 1944.

From the Department of Diseases of the Nervous System of Harvard Medical School and the Neurological Unit of the Boston City Hospital.

Aid was received from the Rockefeller Foundation and the Committee of Human Heredity of the National Research Council. This paper is number XLV in a series entitled "Studies in Epilepsy."



whole group the ratio of females to males was 1.66 to one, whereas of all twins this ratio is 0.97 to one. Ages were between four and 61 years.

On this occasion we report the intelligence of 93 twins. (The members of one set of

Of all twins, 69 were monozygotic and 24 were dizygotic. Almost without exception tests were made of the co-twins on the same occasion. Either the Wechsler-Bellevue or the Stanford-Binet Form L tests were used. The intelligence and Rorschach tests were

TABLE I  
INTELLIGENCE QUOTIENTS OF MONOZYGOTIC TWINS SUBJECT TO SEIZURES  
(Epileptics in bold face)

| Group                    | Name | Age | Sex | I. Q.      |            |             | Notes   |
|--------------------------|------|-----|-----|------------|------------|-------------|---|
|                          |      |     |     | A          | B          | Difference† |   |
| Both.....                | Pat  | 20  | F   | <b>113</b> | <b>101</b> | 12          | A—Fewer convulsions.<br>B—Occasional G. M. for 15 years.                                |
| Chronic.....             | Goo  | 16  | F   | <b>112</b> | <b>106</b> | 6           | Only a few G. M. each.  |
| Epileptics.....          | Wag  | 20  | F   | <b>112</b> | <b>111</b> | 1           | A—Occasional G. M. for 3 years.<br>B—Same for 5 years.                                  |
|                          | Fri  | 11  | F   | <b>109</b> | <b>106</b> | 3           | A few periods of amnesia each.  |
|                          | Sha  | 4   | F   | <b>105</b> | <b>103</b> | 2           | Occasional G. M. for several years.<br>A—More attacks than B.                           |
|                          | Far  | 24  | F   | <b>98</b>  | <b>83</b>  | 15          | A—G. M. for 11 years, none for 4 years.<br>B—G. M. for 15 years.                        |
|                          | Bed  | 19  | F   | <b>63</b>  | <b>54</b>  | 9           | A—Frequent mild seizures for 17 years.<br>B—Same for 7 years.                           |
| One.....                 | O'Co | 19  | M   | 115        | <b>114</b> | - 1         | B—Unconscious periods during migraine—2 years.<br>A—One similar attack.                 |
| Epileptic.....           | Yon  | 7   | F   | 95         | <b>98</b>  | + 3         | B—Frequent daily P. M. for 4 years.   |
| One.....                 | McE  | 7   | F   | 89         | <b>93</b>  | + 4         | A—One G. M. at time of fever.<br>B—Occasional G. M. for 4 years.                        |
| Transient or normal..... | Can  | 16  | F   | 84         | <b>88</b>  | + 4         | B—Mild psychomotor seizures for 15 years.<br>A—One.                                     |
| No serious brain injury. | Ber  | 20  | M   | 84         | <b>84</b>  | 0           | B—Several G. M. following recent head injury.   |
|                          | Joh  | 4   | F   | 88         | <b>71</b>  | - 17        | B—Two G. M. following mild head injury.   |
| One.....                 | Par  | 32  | F   | 113        | <b>110</b> | - 3         | B—Frequent psychomotor seizures for 26 years—early brain injury.                        |
| Chronic.....             | Coh  | 19  | F   | 135        | <b>109</b> | - 26        | B—Hemiparesis at 19 months. Frequent focal seizures since.<br>A—A few G. M. in infancy. |
| Traumatic.....           | Ega  | 7   | M   | 110*       | <b>85*</b> | - 25        | B—Birth injury. Frequent G. M. and P. M.  |
| One.....                 | Nor  | 20  | M   | 100*       | <b>79</b>  | - 21        | B—Congenital brain defect. Frequent G. M. since birth.                                  |
| Normal or transient....  | Rob  | 6   | F   | 87         | <b>72</b>  | - 15        | B—Asphyxia at birth and mid brain injury.<br>G. M. for 3 years.                         |
|                          | Mur  | 26  | F   | 100*       | <b>69</b>  | - 31        | B—Infrequent G. M. for 20 years. No evidence brain injury.                              |
|                          | Coo  | 6   | F   | 97         | <b>65</b>  | - 32        | B—Birth injury with hemiparesis. Mild G. M. for 5 years.                                |
|                          | Bai  | 6   | F   | 111        | <b>50*</b> | - 61        | B—Encephalitis. Frequent psychomotor seizures for 4 years.                              |

\* Estimated. † Plus or minus with reference to non-epileptic co-twin. G. M. = Grand mal. P. M. = Petit mal.

triplets were normal and not similar, and for the sake of brevity are counted as three dizygotic twins.) Sixty-three of the twins did not present evidence of acquired brain pathology or of seizures, and in 30, one or both of the co-twins was subject to seizures.

performed by one of us. (A.L.C.) Dr. G. E. Hobbs assisted in the classification of twins and Dr. L. S. Trowbridge and Miss Pauline Berman helped with the tests. In a few instances the I. Q. of a co-twin had to be estimated from incomplete tests.

## INTELLIGENCE QUOTIENTS OF INDIVIDUALS

Intelligence quotients of the non-epileptic pairs ranged from a high of 149-146 to a low of 52-48. As for non-epileptic individuals, the average I. Q. for the 94 monozygotic co-twins was 109, and for the 32 dizygotic individuals it was 110. The scarcity of twins who have attained eminence has often been remarked upon. Our group is too small to carry weight—but in intelligence is somewhat above the general average of the population.

The following tabulation gives the high, low and average scores in four groups of persons:

AVERAGE INTELLIGENCE QUOTIENTS OF INDIVIDUALS  
IN THE NON-EPILEPTIC AND EPILEPTIC  
TWIN GROUPS

|   | No.<br>per-<br>sons | Intelligence<br>quotients |     |              |
|---|---------------------|---------------------------|-----|--------------|
|   |                     | High                      | Low | Aver-<br>age |
| Non-epileptic group . . . . .                 | 126                 | 149                       | 48  | 109          |
| Normal co-twin of epileptic . . .             | 23                  | 135                       | 84  | 103          |
| Total non-epileptic, unin-<br>jured . . . . . | 149                 | 149                       | 84  | 108          |
| Epileptic without brain in-<br>jury . . . . . | 27                  | 132                       | 63  | 96           |
| Epileptic with brain injury . . .             | 10                  | 110                       | 50  | 77           |
| Total epileptic . . . . .                     | 37                  | 132                       | 50  | 91           |
| All persons . . . . .                         | 186                 | 149                       | 50  | 105          |

Average quotients are: non-epileptic twinned individuals, 109; non-epileptic co-twins of epileptics, 103; epileptics without brain injury, 96; epileptics with brain injury, 77. Six, eight and twenty points separate these successive groups. The effect of brain injury is especially significant. Nineteen points (77 from 96) separate the epileptics who have, and do not have, brain injury. In the group of twins in which one or both has epilepsy, twelve points (91 from 103) separate those with epilepsy from their unaffected co-twin. In the total 186 co-twins, there is an average of 17 points difference (91 from 108) between those who have and do not have seizures.

SPREAD BETWEEN CO-TWINS AT DIFFERENT  
LEVELS OF INTELLIGENCE

A greater spread in the scores of co-twins might be expected in twins with high quo-

tients, since the spread is expressed in absolute numbers and not in percentages. Fig. 1 shows the spread plotted against the higher of the two intelligence quotients. The spread is not dependent on the level of intelligence, but principally on the presence of brain injury. The spread is much greater between dizygotic than between monozygotic co-twins.

THE SPREAD BETWEEN MONOZYGOTIC  
CO-TWINS

The average of the higher and lower scores of each pair of twins in various groups appears in the following tabulation:

## MONOZYGOTIC TWINS

SPREAD BETWEEN AVERAGE QUOTIENTS OF CO-TWINS

|   | No.<br>pairs | Aver. I. Q. |       | Aver.<br>spread |
|---|--------------|-------------|-------|-----------------|
|   |              | Higher      | Lower |                 |
| Non-epileptic twins . . . . .                             | 47           | 112         | 106   | 6               |
| Epileptic—both affected . . .                             | 7            | 102         | 95    | 7               |
| Epileptic—only one affected<br>—no brain injury . . . . . | 6            | 94          | 89    | 5               |
| Epileptic—only one affected<br>—brain injury . . . . .    | 8            | 107         | 77    | 30              |

In the group of 47 non-epileptic monozygotic twins the average spread is six points. In the group of seven monozygotic twins, where both co-twins were subject to seizures, the spread is almost the same—seven points. In the group of six twins, where only one of the co-twins had seizures and was without evidence of serious brain injury, the spread, between high and low without regard to which is epileptic, is five points. In three of the six cases, contrary to what might be expected, the epileptic co-twin has the higher score and the average score for the six non-epileptic co-twins is 92 and for the six epileptic co-twins it is 91, a difference of only one point. However, in each of these six twins, the seizures of the affected co-twin were either few, or of the relatively innocuous petit mal (pykno-epilepsy) variety.

In a final group of 8 monozygotic twins one of the co-twins had chronic epilepsy and definite evidence on neurological examination of having suffered gross damage to the brain before the onset of the seizures. In two of the eight cases, the non-epileptic twin had had a few convulsions in childhood. Among

abso-  
Fig. 1  
higher  
spread  
gence,  
ain in  
between  
c co-

TIC

scores  
ps ap-

-TWINS

Aver.  
spread  
6  
7  
5  
30

monozy-  
points.  
twins,  
izures,  
points.  
ly one  
without  
spread,  
ard to  
ree of  
ght be  
as the  
re for  
nd for  
ference  
f these  
co-twin  
nnocu-  
y.

e twins  
sy and  
ination  
e brain  
two of  
in had  
Among

these eight twins each chronic epileptic has a lower I. Q. than his non-epileptic co-twin. The average I. Q. of the epileptic is 30 points lower than the score of his non-epileptic co-twin (77 against 107). The spread in the scores is four times the spread between monozygotic twins in which both were affected with epilepsy, and five times the spread between non-epileptic co-twins. These differences demonstrate the great importance of organic injury to the brain in causing mental deterioration.

*Dizygotic Twins.*—The average of the higher and lower scores of each pair of twins

in various groups appears in the following tabulation:

DIZYGOTIC TWINS

SPREAD BETWEEN AVERAGE QUOTIENTS OF CO-TWINS

|  | No. pairs | Aver. I. Q. |       | Aver. spread |
|--|-----------|-------------|-------|--------------|
|  |           | Higher      | Lower |              |
| Non-epileptic—same sex ..              | 6         | 115         | 105   | 10           |
| Non-epileptic—opposite sex             | 10        | 114         | 104   | 10           |
| Epileptic—one affected—chronic .....   | 7         | 104         | 81    | 23           |
| Epileptic—one affected—transient ..... | 2         | 122         | 124   | 2            |

SPREAD OF INTELLIGENCE QUOTIENTS IN TWINS

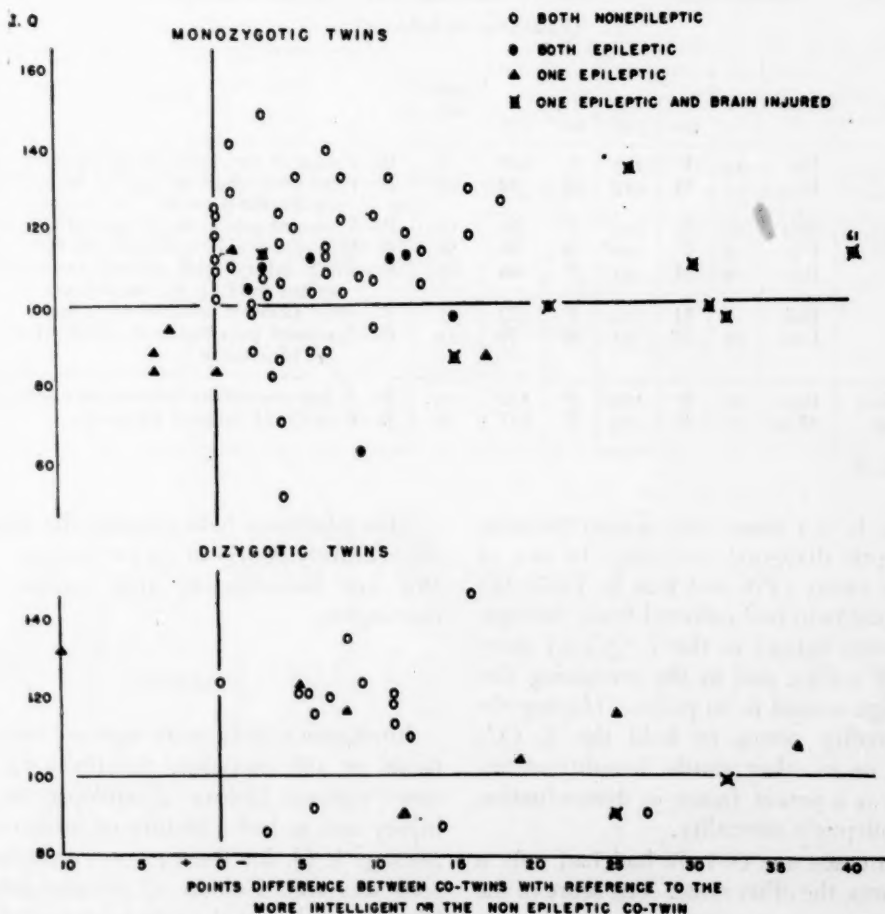


FIG. 1.—The spread between the intelligence quotients of monozygotic and dizygotic co-twins with reference to the score of the more intelligent of the two, or, of those twins affected by epilepsy—the non-epileptic co-twin. The ordinate represents the I. Q. and the abscissa represents the absolute points of spread. Circles indicate normal twins, dots indicate co-twins, both affected by seizures, triangles only one affected, and crossed dots indicate twins in which only one co-twin is epileptic and had suffered brain injury. A single symbol represents a pair of twins.

The spread between the average high and low scores in the 16 non-epileptic dizygotic co-twins is 10 points. This spread is 66 per cent greater than that between monozygotic co-twins. Of the 21 monozygotic twins affected by epilepsy, both of the co-twins had experienced seizures in 11. Of the 9 dizygotic twins, in every instance only one co-twin was affected. Among the seven dizygotic twins in which the epilepsy in the affected co-twin was serious, the spread between the normal and the epileptic co-twin is 23 points, *i.e.*, the average I. Q. of the normal twin is 104, and of the epileptic twin

#### VERBAL AND PERFORMANCE SCORES

Those subjects who were given the Wechsler-Bellevue test could be compared with respect to their verbal and performance scores.

The following tabulation compares the average scores in the 70 non-epileptic and the 17 epileptic individuals, both mono- and dizygotic, who were given this test:

|                  | Verbal | Performance | Performance exceeds verbal by |
|------------------|--------|-------------|-------------------------------|
| Non-epileptic .. | 107.5  | 112.0       | + 4.5 points                  |
| Epileptic .....  | 105.0  | 100.1       | - 4.9 points                  |

TABLE II  
INTELLIGENCE QUOTIENTS OF DIZYGOTIC TWINS SUBJECT TO SEIZURES  
(Epileptics in bold face)

| Group            | Name | Age | A   |       | B   |            | Difference | Notes  |
|------------------|------|-----|-----|-------|-----|------------|------------|--|
|                  |      |     | Sex | I. Q. | Sex | I. Q.      |            |  |
| One.....         | Fit  | 42  | F   | 117   | F   | <b>109</b> | 8          | B—Frequent psychomotor seizures for 28 years.                            |
| Chronic.....     | Hag  | 17  | M   | 117   | M   | <b>92</b>  | 25         | B—Fractured skull at age of four. Frequent G. M. for 6 years.            |
| One.....         | Smi  | 29  | M   | 105*  | F   | <b>86</b>  | 19         | B—Frequent psychomotor seizures for 13 years.                            |
| Normal.....      | Pik  | 5   | F   | 100*  | M   | <b>68</b>  | 32         | B—Hemiparesis. Frequent G. M. for 3 years.                               |
|                  | Rea  | 9   | M   | 91    | F   | <b>66</b>  | 25         | B—Birth injury with dilated ventricles. Frequent mild G. M. for 8 years. |
|                  | Hai  | 7   | M   | 109   | F   | <b>72</b>  | 37         | B—Mild akinetic seizures for 1 year.                                     |
|                  | Lus  | 17  | M   | 91    | M   | <b>79</b>  | 12         | B—Frequent psychomotor seizures for 6 years. A "blue baby."              |
| One transient .. | Bur  | 16  | F   | 122   | F   | <b>132</b> | 10         | B—A few convulsive seizures in childhood.                                |
| One normal...    | Mau  | 28  | F   | 122   | F   | <b>117</b> | 5          | B—Five G. M. in past 10 years.   |

\* Estimated.

81. This is 2.3 times the spread between non-epileptic dizygotic co-twins. In two of the seven twins (Pik and Rea in Table II) the epileptic twin had suffered brain damage. The average spread in the I. Q.'s of these two is 28 points, and in the remaining five the average spread is 20 points. Having the same heredity seems to hold the I. Q.'s together, or in other words, heredity of intelligence is a potent factor in determination of the epileptic's mentality.

In two cases one co-twin had had only a few seizures, the other none. The score of the seized twin was 5 points lower in the one set, and 10 points higher in the other.

Data concerning the 22 monozygotic and the 9 dizygotic twins which were affected by seizures appears in Tables I and II.

This tabulation indicates that the epileptics did relatively poorly in the performance tests. We are investigating this subject more thoroughly.

#### SUMMARY

Intelligence tests were carried out on 93 twins or 186 co-twins. Of these 63 twins were without history of epilepsy or brain injury and 30 had a history of seizures. The average I. Q. for the 149 non-epileptic persons was 108. For the 27 persons with epilepsy but without definite evidence of brain injury, 96; and for the 10 epileptics with brain injury, 77.

Among monozygotic twins the difference between the average high and low scores of



47 non-epileptic twins was six points. Among seven monozygotic twins in which both co-twins had chronic epilepsy, the spread was seven points. Among six pairs in which only one co-twin had epilepsy, the spread was five points and among the eight twins in which only one had chronic epilepsy and also evidence of brain injury, the spread was 30 points or six times the spread in normal twins. Among dizygotic twins the average spread between high and low scores was 10 points for 16 non-epileptic twins and 23 points for seven twins in which one had chronic seizures. In only two of these twins had the epileptic co-twin suffered brain injury.

These data emphasize that with a good mental inheritance a patient is able to maintain a normal intelligence in spite of epilepsy, but that acquired gross pathology of the brain has a serious effect on mentality. In other words, contrary to common medical opinion, a person with a normal mentality who develops idiopathic (genetic) epilepsy is much less likely to become mentally deteriorated

than a person who develops symptomatic (acquired) epilepsy.

#### BIBLIOGRAPHY

1. Lennox, W. G. Mental defect in epilepsy and the influence of heredity. *Am. J. Psychiat.*, **98**: 733-739, March, 1942.
2. Lennox, W. G. Brain injury, drugs, and environment as causes of mental decay in epilepsy. *Am. J. Psychiat.*, **99**: 174-180, September, 1942.
3. Newman, H. H. Multiple human births. Doubleday, Doran & Company, Inc., New York, 1940.
4. Sandiford, I. Educational psychology, quoted by Rosanoff, A. J. Twins. A study of certain mental disorders. *Cal. and West. Med.*, **37**: 101, August, 1932.
5. Hobbs, G. E. Mental disorders in one of a pair of identical twins. *Am. J. Psychiat.*, **98**: 447, November, 1941.
6. Fabing, H. Tuberous sclerosis with epilepsy (epiloia) in identical twins. *Brain*, **47**: 227, 1934.
7. Freeman, W. Symptomatic epilepsy in one of identical twins. *J. Neurol. and Psychopath.*, **15**: 210, 1935.
8. Lennox, W. G., Gibbs, E. L., and Gibbs, F. A. Inheritance of cerebral dysrhythmia and epilepsy. *Arch. Neurol. and Psychiat.*, **44**: 1155, December, 1940.

## DEVELOPMENTAL ROOTS OF SCHIZOPHRENIA<sup>1</sup>

J. S. KASANIN, M.D.

*Director, Department of Psychiatry, Mount Zion Hospital, San Francisco; Assistant Clinical Professor of Psychiatry, University of California Medical School*

The diagnosis of schizophrenia is still an empiric diagnosis; it depends a good deal upon the clinical intuition of the psychiatrist rather than the observable facts. There are several sets of factors which are taken into consideration in the diagnosis of schizophrenia. One set deals with symptoms such as withdrawal from the environment, loss of interest in the outside world, odd and fragmentary behavior and utterances, projections, distortions of the environment and the presence of delusions and hallucinations. It is quite rare, however, that all symptoms appear in the same individual. Some of these symptoms in various combinations may appear in symptomatic psychoses. The psychiatrist then depends upon another set of factors for his diagnosis. These are concerned primarily with the genetic aspects of the disease; *i.e.*, the evolution of a rather special personality that has been subjected to certain environmental stresses. Here we have usually a history of a rather shy, withdrawn, poorly adjusted individual who from childhood on has always been somewhat different from other people, who has had very few friends, who has been unusually sensitive, uncommunicative, "shut-in," or in whom there has been a gradual, insidious personality change culminating in a psychosis; or, as Campbell (1) puts it, the psychoses and the special personalities are of the same cloth. The original description of such persons by Hoch and Adolf Meyer (2) still remains the best we have. It is only when we are convinced that we have the history of a special personality prior to the illness that symptoms acquire a meaning for us, a blending of which gives us an idea about the seriousness of the case, its prognosis, etc. The fact that we pay so much attention to

pitfalls and difficulties in maturation of the pre-schizophrenic personality suggests that we are dealing primarily with a developmental disorder. In other words, schizophrenia may be looked upon as the culmination of a failure in the development of the individual. All our work in the field of mental hygiene depends on our being able to see signs of a faulty development and to correct those factors which may be responsible for it. This point of view is one of the most important contributions of American psychiatry. In the beginning of this century, in the midst of the enthusiastic acceptance by medical science of the concept that at last there was a definite histopathological proof that schizophrenia was an organic disease (3), Adolf Meyer had the courage to contend that schizophrenia was essentially a personality disorder due to certain environmental and constitutional factors, rather than to endocrine or toxic disorder.

As the lack of specificity in neuropathological findings in post mortem examination of schizophrenic patients became more and more apparent, Meyer's views met with greater acceptance and recognition. It is the result of his teachings that a so-called dynamic-genetic point of view in American psychiatry has been adopted. According to Meyer, if we know all about the individual's original endowment and the various stresses to which he has been subjected, we ought to be able to understand how the patient became ill. It is only by the postulation of a causative principle in psychiatry that we may hope to develop it into a scientific discipline. With acceptance of the genetic point of view, however, there are still certain phenomena in psychiatry which are unnecessarily obscure to us. This is apparently due to the fact that we have rather inadequately utilized the genetic approach. If we look upon schizophrenia as a failure in maturation and development, one of the prominent features of this illness is regres-

<sup>1</sup> Read at the Centenary Meeting of The American Psychiatric Association, Philadelphia, Pa., May 15-18, 1944.

From the Department of Psychiatry, Mount Zion Hospital, San Francisco, Calif.

sion to genetically earlier modes of action and thought.

We see regression as a fairly common psychological mechanism in the lives of ordinary people under stress, as well as in neurotics and psychotics. Soldiers in army camps complain that conditions in army life make them regress to a sort of adolescent rowdiness which they would not permit themselves in ordinary life in a civilian community. With the birth of a younger child, the older sibling out of jealousy begins to act like a new born baby. He begins to stumble and fall, begins to urinate and soil himself, demands to be fed, cries on the slightest provocation. The so-called schizophrenic deterioration contains many elements of regression to a childish and more primitive way of dealing with the world of reality. With the progression of his illness the schizophrenic may become childish, naive, simple, may lose his willpower, his sense of humor, may show complete dependence on other people, and in extreme forms may regress to the behavior of an infant. He has to be fed, he has to be changed because he soils himself, and in every way he has to be cared for like a baby. In cases of marked regression, the schizophrenic assumes even an intrauterine position. The regression of a schizophrenic is a very complex phenomenon, containing all sorts of elements, which we shall discuss later.

Regression in some form is very common in schizophrenia; in fact, it is the phenomenon of regression with its counterpart of deterioration to which the disease "dementia praecox" owes its name. It impressed Kraepelin that there seemed to be a whole group of mental diseases described by Kahlbaum, Hecker and Morel which had the common feature of deterioration. From this he concluded that all these conditions having the large common denominator of deterioration must be variants of the same disorder. It took a long time, especially in America, before the fallacy of such a conclusion was discovered. Later studies have shown that deterioration is not present in all cases, that the disease can stop at any stage of its development or regression without going any further, and that approximately one-third of all cases diagnosed as dementia praecox

have a tendency toward spontaneous recovery. Nevertheless, the observable fact of regression is an important element in the clinical picture of schizophrenia and can be utilized for better understanding of the dynamics of this illness.

Assuming that regression is common in schizophrenia, what are its manifestations? They are three-fold: (a) Regression in behavior and conduct, such as sloppiness in appearance, dependence, indecision, extreme passivity, a desire for the protection of elders, loss of grasp of the every day details of life, loss of contact with the family and the work-a-day world, etc. (b) Regression of the fundamental thought processes. Kurt Goldstein, Vigotsky, Cameron, Kasanin(4) and others have emphasized that in schizophrenia there is reduction from conceptual thinking to a more primitive, "complex or concrete" thinking. The capacity to form theories, to test them, and to draw conclusions develops in later adolescence, and it is this capacity to form concepts that the schizophrenic tends to lose in the course of his illness. He regresses to "concrete behavior in his thinking." In this behavior the schizophrenic deals not with whole subjects but with parts of them, with only one aspect of them. He deals with things on an entirely sensory level as a child does. His language loses the generic words which signify gradation, shades, categories or classes, and there is loss of the capacity for generalization. Concrete situations are treated as if they were abstract and vice versa. (c) The third manner in which regression manifests itself is shown in the context of schizophrenic utterances. The fact that schizophrenic utterances are not a mere word salad but have a definite meaning to the patient is another of the great clinical observations of Adolf Meyer. What are the manifestations of schizophrenic regression as revealed in the content of schizophrenic thought? Regression is a purely descriptive term and to understand it one must take into consideration the underlying dynamics. The dynamics relate to the complex interaction of various sources of integration and inhibition, in other words, to the process of learning which is primarily involved in the development of the ego(5). It has been shown by Freud



that regression owes its appearance to two factors: a fixation on some object, and the occurrence of frustrations which make the individual return to earlier modes of satisfaction. We are not at all sure that we know the frustrations of the schizophrenic which make him regress to earlier libidinal ties, nor are we sure about the primary fixation points in schizophrenia. In experimental studies it was shown by Barker, Dembo and Lewis that as a result of frustration behavior becomes disorganized, vague rather than specific, scanty in details, restricted as to area of activities and interests, and decreasingly realistic. These changes which come about as the result of frustration can be described as a return to earlier behavior patterns, because the behavior of infants and young children can be similarly described. In frustration we deal not so much with regression of behavior as primitivation of it. From every other angle we find that regression seems to have in its outer aspects a great deal in common with the behavior of less mature and developed forms. At the same time one must remember that regression in adults does not mean that the adult necessarily becomes a child. This point of view has been expressed by Cameron in his studies on schizophrenic thinking and Sullivan in the study of the fantasy life of schizophrenics(6). In his psychosis the schizophrenic suffers from a loss of a sense of reality with sporadic and often desperate attempts to retrieve it, to reestablish it, to reorganize it. The sense of reality is not a problem in a child since that sense is usually very good for the various phases in his development. In an integrated culture it is normal for a child to delegate some of his reality sense to his parents remaining himself in the play world or a preparatory world. While a child is still a part of his parents he can afford to experiment with reality under the guidance of his parents. By contrast the schizophrenic stands alone, his reality is such that he can not depend upon his parents any more and the period of play and experimentation is over. Then again a child is well organized in each successive stage of his development so that the phenomenon of fragmentation and disorganization of either the conscious or

unconscious life is not a problem in a child. All we can say is that a schizophrenic in his illness goes through certain phases in his regression which are somewhat analogous to certain phases in the maturation of a child.

Since there is a definite relationship between regression of schizophrenia and the thoughts of young children, the latter can be utilized in studying the dynamics of the regression in schizophrenia. We must know, then, something about the thought content of a child before we can trace its residuals in the regressive productions of schizophrenics.

A child lives in a world which is partly real and partly magic. A child lives between fantasy and reality. He forms all sorts of fantastic notions and ideas about things around him and then checks them against the ideas of other children of his own age, of older children, and finally adults. He discards many of his ideas but it is amazing how many fantastic ideas the child retains, especially dealing with forbidden subjects about which there is a conspiracy of silence, an embarrassment, and a general hush-hush, such as the question of sex and the existence of God. A child who lives in the world of magic feels himself to be mixed up with magic and it seems to him that certain phenomena take place because he willed them to happen. According to Piaget(7), children believe that some internal vital force resides in all objects, which has some relation to them. Children personify and vitalize inanimate objects. Thus, my little girl woke up crying, telling me that she had a bad dream in which a piece of paper hit her. Children attribute to objects a force analogous to that of living human beings. Thus, when a little boy sees a marble rolling down a hill, he asks his father if the marble knows the person at the foot of the hill. Children speak of cars "living" in garages. Children are not interested in mechanical causality and are not satisfied with it; they live in a pre-causal animistic world. Everything which moves is life. To children, even feces are living things. Immovable objects have inherent power in them; a child feels that he can cause things to happen in the outside world and the world does things to him. Piaget speaks of the egocentrism of the child, by which he means a feeling of omni-



potence. Everything is related to a child and he is in the center of the universe. Analysis of obsessive neurotics shows that children in their development tend to go through a phase where a wish or a fantasy or a thought is equal to a deed, so that the child feels himself omnipotent. Ferenczi(8) thinks that this feeling of omnipotence begins to develop in the child in the intrauterine existence. Later studies show that this feeling is specially strong in the anal-sadistic phase of a child's development when he feels himself to be the complete master of the family. In this stage the child may not be able to reach the moon but he certainly can make his parents do their utmost to reach it for him. With the development of a real interest in the outside world the child gradually renounces his omnipotence and accepts the world as it really is. If a child, however, meets a series of frustrations and the outside world remains strange and hostile to him, he sticks to the comforting feeling of omnipotence. He develops all sorts of defenses which eventually lead to an obsessive neurosis.

Another problem that a child has to face is the development of his own sexuality. Little children are not at all sure that their gender is definite and final. A little boy observes the erection of his penis, frequently cries and expresses the fear that it may break off. Little girls notice anatomical differences between little boys and themselves and often develop fantasies that they will eventually grow a penis. On the other hand, they may have the idea that they have had a penis but lost it because they masturbated or because their mean mother took it away from them. Little boys often flirt with the idea of becoming girls; they put on mother's cosmetics, try on mother's or sister's clothes, etc. Little girls occasionally try to urinate standing up, as little boys do, in the belief that they are little boys. This indecision as to what their sex is going to be may be present until adolescence in many normal boys and girls, occasionally in the conscious, but mostly in their unconscious(9).

Another feeling which children have and which is important for our studies on schizo-

phrenia is that adults know their thoughts. To quote Piaget(7):

Children are perpetually surrounded by adults who not only know much more than they do but who also do everything in their power to understand them, who even anticipate their thoughts and their desires. Children, therefore, whether they work or not, whether they express wishes or feel guilty are perpetually under the impression that people can read their thoughts and in extreme cases can steal their thoughts away.

Erikson(10) confirms this observation even more specifically:

Children, in an un verbalized form, know more about adults (in so far as they are children without suspecting it), than adults know about them. But because of verbal and mechanical virtuosity, they also assume adults to know more than they do. They expect adults, especially those against whom they have aggressive fantasies, to know or feel their thoughts and, furthermore, to have the right and the means to do to a child what the child can only dream of doing to others.

These are the three groups of ideas which occur to me as having importance in relation to schizophrenia. In the light of these observations on children, there are certain symptoms of schizophrenia which can now be understood dynamically and genetically. The odd and bizarre delusions of schizophrenics now acquire a meaning for us if we can keep in mind that the young child, as outlined above, has ideas of omnipotence, is confused about his own sex, and feels that adults know what he is thinking about. In studying a large number of early cases of schizophrenia, I have made the following observations: Most schizophrenics at one time or another express ideas of omnipotence. It varies from the schizophrenic who sits quietly in the chair with his index finger flexed in a certain way, afraid to change its position because the world would suddenly be destroyed if he moved, to less spectacular ideas of omnipotence. Schizophrenics feel that they are mixed up in an unfortunate sort of way with cosmic powers. Certain things seem to happen in peculiar ways; thus a schizophrenic becomes disturbed because a large number of his acquaintances suddenly become ill or die. He feels that he is at the center of the universe and that everyone is talking about him. His distress is genuine because he realizes that in part it is a regres-

sion and he wants very much to reestablish a normal relationship with the world. It is interesting that while most of the schizophrenics in this country have delusions of being God, Jesus Christ or the Virgin Mary, in the Soviet Union where religion has been relegated to a secondary place, the schizophrenic claims relationship to Stalin, Molotov, Lenin, etc. In one form or another the ideas of omnipotence can be found in a large number of schizophrenics. To the same group belongs the patient's idea that a large number of people have come to grief because of him—have been killed or murdered. He is always in the center of a war, a revolution, a great flood, etc. He may have ideas of being related to everyone in the world or that the world is coming to an end as a result of his misdeeds or bad thoughts.

Analogous confusion about sex holds true in schizophrenics as in young children. A large number of schizophrenics, on being questioned directly as to whether they are men or women, will often answer enigmatically, "that's it," "that's what I want to know," "I wish I knew," or "what do you think?" The questions often amuse, frequently bring out a ponderous discussion or an evasive reply, but never surprise the patient. The common anxiety about being homosexual and specially of being hermaphroditic is related to this doubt. The frequent homosexual approach by schizophrenic patients to each other may not be due to a true libidinal drive which at the best is very attenuated, but to an earnest desire to learn if they are male or female. The doubt about his own gender may exist in the mind of a perfectly normal individual until adolescence; the presence of such a doubt after adolescence is evidence of regression. Male schizophrenics frequently complain that their semen has been drained off at night by some occult power, and female schizophrenics that they were in some way deprived of their inner sexual organs by electricity. It is interesting that while male patients complain of being turned into women through erotization of all the orifices of their body, women complain not so much of being men as of being deprived of their procreative organs. To be sure, one may state that we are dealing here largely with ambivalence which is a

cardinal feature of schizophrenic thinking. It may be said that by virtue of his ambivalence the schizophrenic cannot make up his mind if he is male or female. May it not be, however, that the ambivalence is not the cause but the result of this and similar confusions? It is quite possible that schizophrenics are ambivalent because they do not know if they are man or woman. Consequently, they cannot make up their minds which way to act; to be passive or active, aggressive or submissive, bold or shy, etc. It is not only in the sexual sphere but in all his basic orientation in life that the schizophrenic is confused due to a poorly integrated body image. In an unpublished work on the Rorschach test in schizophrenia, Floyd Dew found out that the schizophrenic in the same picture sees alternately both male and female symbols for the same shadow. Thus at one time they see the various details as male and then again as female organs.

The last group of symptoms expressing regression to childhood deals with the conviction of schizophrenics that other people know their thoughts. We have a large number of ideas referring to this concept. Schizophrenics speak of their minds being read by other people; their minds are an "open-book." Everyone knows what they are thinking about and when they are questioned by a psychiatrist they look at him in amusement, stating that the whole thing is a farce since the psychiatrist knows their thoughts anyhow. They complain that when they walk on the street people smack their lips, make grimaces, exchange meaningful glances, etc. They feel that their thoughts are published in newspapers, magazines, broadcast by radio, radar, etc. There is a frequent complaint that their life has been portrayed in the movies and the schizophrenics often feel that their lives and problems are dramatized by other patients on the ward who are not real patients but actors portraying the patient's life.

In addition to these three sets of symptoms which are evidence of schizophrenic regression, there are other symptoms which are less dramatic but which nevertheless signify the same phenomena. Take for example the extraordinary passivity of the

schizophrenic patient. In this passivity the patient regresses to the rôle of a child and the older people around him must take responsibility for him. Hence the rather puzzling conduct of a patient who is taken advantage of sexually or otherwise by older people, and never objects to it. Yet these patients are rather prim, with no history of delinquent behavior. It also expresses itself in the suspicion that everyone wants to attack, seduce and hurt him, depending on the concept of what takes place in sexual relationship between his parents. The complaints of being doxed, mystified, hypnotized, deprived of one's will, and especially of poison being in food, all tend to reduce the individual to the rôle of an infant so that he becomes a completely dependent child.

Prior to the onset of schizophrenia, one has the history of a feeling of unreality and frankly expressed fear of insanity. A large number of neurotic patients come to therapy not so much to have their neuroses cured as because they are afraid they will become insane. It was stated before that if the real world is not good to the child he does not accept it but sticks to the pleasant world of make-believe and magic which he has created for himself. There are a great many factors which make the patient shrink from the outside world of reality. In an adult regression may take place which is accompanied by a marked feeling of anxiety, since one cannot readily combine the world of fairy tales with the real world. The patient feels that things are very strange and wonders if something is not wrong with his perceptions. Finally it comes to him that the world is probably all right and the fault is his; yet he cannot accept the outside world and a feeling of unreality develops. Every feeling of unreality is invariably connected with the premonition of a very great disaster; *i.e.*, a complete loss of feeling of reality which, of course, means insanity.

The above triad of psychological facts which are so often found in schizophrenic thinking, *i.e.*, ideas of omnipotence, confusion about sex, and an idea that other people read the patient's thoughts, are not isolated phenomena of regression. They are all parts of the very complex process of development of a sense of reality in the individual, they

deal with the general question of perception of the outside world; *i.e.*, with the formation of the ego. Delusions are formed when the sense of reality fails to develop. According to Freud (11), a delusion is like a patch on the spot where originally there was a tear in the relation between the ego and the outside world. Freud states that psychoses are due to the disturbance between the ego and the environment. For some unknown reason the ego creates for itself a new outer and inner world out of its own unconscious, the "id." The ego obviously does this only after it fails or has been demoralized by severe frustration. Since we know that the ego defends itself against assaults of the id, we must assume that frustrations are of such great power that the ego is not able to cope with them. Because the struggle is so severe the ego is forced to utilize the id to form a substitute for reality. The oldest clinicians observed that schizophrenics are imaginative, creative and artistic people. They are not satisfied with mere rejection of the unpleasant reality. When an ordinary man develops an organic lesion he becomes demoralized and disintegrates; while the schizophrenic, out of his rich inner fantasy, creates for himself a different world. The artistic productions, the delusions, are plugs in the holes or patches on the rent where the relationship between the ego and the outside world fails. The refusal of the ego to accept the impoverishment of its world, or the means of creating new images, has been noted by Hanfmann and myself (4) in the study of schizophrenic thinking, and by Kurt Goldstein, who states that the world of the schizophrenic is richer and more animated with personalized ideas than that of a somatic patient.

These scattered observations on the developmental failure of the schizophrenic need further statistical elaboration in which the author is engaged at the present time. If regression or primitivation is such a very common psychological phenomenon in schizophrenia and if we can formulate the phenomena of regression quite specifically, then perhaps we ought to limit the term schizophrenic disorder to those patients who show such regression. I do not know of any other clinical picture which shows so completely



the phenomenon of regression described above. A study of regression in organic patients may show certain similarities in the form of thought but not in the content which we have described. It seems to me that only by taking into consideration the genetic factor in schizophrenia can we understand its dynamics. And it is this factor which will probably clarify many moot points in schizophrenia.

### CONCLUSIONS

1. A diagnosis of schizophrenia rests partly on the data obtained from the mental status and observation of the patient; and to a greater degree on a history disclosing a faulty development of a special personality developing this particular disease entity.

2. It occurred to the author that a more intensive study of the genetic factors may help not only in aiding the diagnosis of schizophrenia but also to explain the content of schizophrenic thought.

3. A study of certain regressive phenomena in schizophrenia recalls a close analogy with certain dominant ideas in early child development.

4. A young child in his development goes through stages when he feels omnipotent, when he is not sure as to what will be his ultimate sex, and he has a feeling that adults know his thoughts.

5. The very same ideas appear in greater elaboration in schizophrenia, thus schizophrenics frequently express ideas of omnipotence, being endowed with great power, and somehow being mixed up with great

cosmic events; they are very often confused as to whether they are men or women, and frequently express the idea that other people read their thoughts.

5. A greater knowledge of thinking of children may give us further clues in the understanding of schizophrenia as a disorder in which an individual regresses to earlier phases in his development.

### BIBLIOGRAPHY

1. Campbell, C. Macfie. On the definition or delimitation of the schizophrenic type of reaction. *A. Research Nerv. & Ment. Dis. Proc.* (1925), 5: 16-30, 1928.
2. Meyer, Adolf. An attempt at analysis of the neurotic constitution. *Am. J. Psychol.*, 14: 90-103, Sept. 1903.
3. Conn, Jacob H. An examination of the clinico-pathological evidence offered for the concept of dementia precox as a specific disease entity. *Am. J. Psychiat.*, 13: 1039-1082, March 1934.
4. Kasanin, J. S. Language and thought in schizophrenia. University of California Press, 1944.
5. Sears, Robert R. Survey of objective studies of psychoanalytic concepts. Social Science Research Council, 1943.
6. Sullivan, Harry Stack. Tentative criteria of malignancy in schizophrenia. *Am. J. Psychiat.*, 84: 759, April 1928.
7. Piaget, Jean. The language and thought of the child. Harcourt Brace and Co., 1926.
8. Ferenzi, Sandor. Stages in the development of the sense of reality. *Sex in Psychoanalysis*. Richard Badger and Co., Boston, 1926.
9. Freud, S. On the sexual theories of children. *Collected Papers*, Vol. II. The Hogarth Press.
10. Erikson, Erik H. Problems of infancy and early childhood. *Cyclopedia of Medicine, Surgery, and Specialties*. F. A. Davis, Co., 1940.
11. Freud, S. Neuroses and psychoses. *Collected Papers*, Vol. II. The Hogarth Press, London.



## THE RELATIONSHIP OF PSYCHOANALYSIS TO PSYCHIATRY<sup>1</sup>

ROBERT P. KNIGHT, M.D., TOPEKA, KAN.

By coincidence this centennial year of The American Psychiatric Association is also the tenth anniversary of the Section on Psychoanalysis. In 1933 the Association authorized a number of its Fellows to form such a section, and its first meeting was held in 1934 as a joint session with The American Psychiatric Association and the American Psychoanalytic Association—an arrangement which has prevailed each year since 1934. Those of you who were present at that meeting in New York will recall the verbal fireworks with which the section was initiated that passed between Dr. A. A. Brill, pioneer psychoanalyst in this country and first chairman of this section, and the late Dr. Bernard Sachs. The story of the developing relationship between psychoanalysis and psychiatry is worth reviewing briefly as a part of this centennial and decennial commemoration.

The first quarter of the twentieth century was a revolutionary period for psychiatry in this country. Throughout most of the nineteenth century psychiatry had existed almost exclusively in mental hospitals, isolated from the community, and the private practice of psychiatry had even been frowned upon by this Association. At the close of the century psychiatry was still dominated by the neurological approach as epitomized in Griesinger's dictum, "Mental diseases are brain diseases." Some advance had been made when Adolf Meyer, in 1896, introduced the mental disease classification of Kraepelin, last and greatest of the descriptive psychiatrists, but psychiatry still lacked a psychology. In the first decade of the twentieth century, three important influences began to change American psychiatry from a descriptive, neurologically rooted science into a dynamic, psychological science—the emphasis on detailed case histories showing causal relationships of experiential events by Adolf Meyer, August Hoch, George H. Kirby, and others; the publication in 1908

of Clifford W. Beers' book, *The Mind That Found Itself*, and the ensuing development of the Mental Hygiene movement devoted to prophylaxis of mental illness through child guidance; and the introduction, in 1908, by Dr. A. A. Brill, of psychoanalysis, the first dynamic psychology attempting to explore and interpret unconscious mental processes and the behavior and symptoms resulting therefrom. Brill's introduction of psychoanalysis received a great impetus when, the following year, Freud made his first and only trip to America to give a series of lectures on psychoanalysis at Clark University, gaining the support of such men as G. Stanley Hall, James J. Putnam, William A. White, Smith Ely Jelliffe and others. In 1911 the New York Psychoanalytic Society was formed and the exponents of psychoanalysis, led by Brill, crusaded tirelessly for the Freudian point of view. Many bitter quarrels between the advocates and opponents of psychoanalysis marked these early years, one of the stormiest being the heated discussion at the 1914 annual meeting of the American Medico-Psychological Association. Psychoanalysis has many times been consigned to oblivion. In 1916, for example, Dr. Theodore H. Kellogg in the *Reference Handbook of the Medical Sciences* confidently expressed this verdict: "Psychoanalysis, as now known, will not become of general use in mental disorders, and a decennium hence will probably only be referred to as an interesting phase in experimental psychiatry. It has not even the tangible basis of hypnotism, which as a psychiatric remedy has had its day, and is passing into merited oblivion." With Mark Twain, both hypnosis and psychoanalysis can, 28 years after Kellogg's pre-mortem obituary, say that the report of their deaths was greatly exaggerated.

Dr. William Alanson White was the first president of this Association to speak out boldly as a champion of psychoanalysis. In his presidential address to this Association in 1925 he said: "Psychoanalysis has long

<sup>1</sup> Read at the Centenary Meeting of The American Psychiatric Association, Philadelphia, Pa., May 15-18, 1944.

since developed beyond the simples of its first beginnings and now represents a body of thought without the utilization of which no psychiatrist can longer understand his problems." Dr. White, in this same address, also recommended that five other psychiatric organizations, including the American Psychoanalytic Association, "unite in common congress" with The American Psychiatric Association, and this Section on Psychoanalysis, along with the other sections, is a direct result of his recommendations.

In his presidential address in 1934, the year of the inauguration of this section, Dr. George H. Kirby devoted considerable attention to a critical evaluation of the place of psychoanalysis in psychiatry in connection with his main theme of the essential function of psychotherapy in psychiatric treatment. He said:

The work of Sigmund Freud furnished the foundation for the development of a dynamic psychology or as it has been called an instinct-psychology; a psychology which found in the instincts the driving forces capable of explaining the activity of man. Starting from a study of the psychoneuroses Freud developed during the past 35 years the vast superstructure of psychoanalytic doctrine which at present comprises: (1) a method of studying psychic processes; (2) a theory of the human personality and (3) a psychotherapeutic technique. . . . It is obvious to all students of psychopathology and psychiatry that psychoanalysis has exercised a tremendous influence on all modern methods of psychotherapy but, paradoxical as it may seem, psychoanalysis does not in itself constitute a therapeutic technique of wide application.

After speaking of the well-known limitations to suitable cases of the standard psychoanalytic technique, Dr. Kirby went on to say:

Psychoanalysis has, on the other hand, as a method of investigation and research, made contributions of inestimable value to psychopathology; it has discovered and made available for psychiatry a large body of scientific knowledge regarding the biological forces which shape personality reactions and the mental mechanisms concerned in symptom formation. . . . It is recognized by everyone that psychoanalysis has also enriched all forms of mental therapy.

Dr. Kirby then spoke of the wider application in psychiatric hospitals of the psychobiological approach of Adolf Meyer and stated:

It is thus obvious that the *psychobiological approach which utilizes psychoanalytic principles* is

the method of mental therapy most widely practiced today and it is indeed our main reliance throughout the entire field of psychiatry.

Turning later to prediction, Dr. Kirby said:

Instead of psychiatry being pushed into an inferior position by psychoanalysis, I look for a continuation of what is now taking place; namely an absorption into psychiatry of analytic principles which will still further stimulate and quicken psychiatric methods of investigation and treatment. Our goal should be to draw psychiatry and psychoanalysis into closer relationships and to identify them both more positively with the practice of medicine. . . . Just as psychiatry has been influenced by psychoanalysis so I believe will the therapeutic technique of analysis be modified by increasing psychiatric knowledge and improved methods. Already the limits of the "orthodox analysis" in case work are recognized and need is felt for what analysts themselves call a "modified technique." I believe that psychoanalysis has been burdened by too much formalism, too much dogmatism, and too much appearance of cultism. The rigidity and ritualism which it now uses in therapeutic technique represent a phase which I believe will gradually pass away.

Today, 10 years after Dr. Kirby's critical appraisal, I would like to discuss three definite trends which are evident in the development of psychoanalysis, all of which are in the direction indicated by such thoughtful and far-sighted psychiatric leaders as Dr. White and Dr. Kirby. The first of these is a further process of integration and unification of psychoanalysis and psychiatry. As psychiatry has become increasingly psychologic and dynamic in its viewpoints through absorption of psychoanalytic theories and principles, psychoanalysis has become more psychiatric in its own orientation, as Dr. Bartemeier has shown.<sup>2</sup> Since 1938 it has been an official requirement in the minimal standards for training in psychoanalysis that a candidate have at least one year of psychiatric training in a psychiatric hospital prior to beginning his psychoanalytic training. (Some psychoanalytic institutes require two or three years of psychiatric training.) Since 1938 only physicians have been trained to do psychoanalytic therapy. At the present time 170 of the 240 members of the American Psychoanalytic Association, or 70 percent, are members or Fellows of The American Psychiatric Association. In another decade,

<sup>2</sup> Am. J. Psychiat., Sept. 1944.

one could confidently predict, 90 percent of the psychoanalysts will be members or Fellows of this Association.

The greater psychiatric orientation of psychoanalysts is not only reflected in increased membership of psychoanalysts in The American Psychiatric Association. Many psychiatric hospitals, especially the private hospitals where patient-psychiatrist ratios are lower, have analytically trained psychiatrists on the staff either as active staff members or as consultants. These have included St. Elizabeth's, Bloomingdale (now Westchester Division, New York Hospital), Utica State Hospital, Sheppard and Enoch Pratt, Menninger Sanitarium, Chestnut Lodge, Mitchell Sanitarium, Pennsylvania Hospital, McLean Hospital, Butler Hospital, Compton Sanitarium, The Haven, Milwaukee Sanitarium and others. Also many psychoanalysts are teaching psychiatry in medical schools and 46 analysts are psychiatrists in the armed forces. Further psychiatric orientation of analysts has resulted from the fact that many more types of psychiatric cases have been studied and treated by them—types that were originally considered outside the scope of standard psychoanalytic therapy—chronic alcoholics, middle life depressions, psychopaths, schizophrenics, epileptics, and so on. This psychiatric experience of analysts has had what might be called a "sobering" influence on them; they have found out by experience how sick people can get and how to evaluate psychiatrically the ominous signs in their cases.

A second trend, although one still in its beginnings, is the application of psychoanalytic principles to the various psychiatric hospital therapies other than psychotherapy. Dr. Ernst Simmel was a pioneer in this development in the late 1920's in his sanitarium at Tegel, near Berlin, and Dr. William C. Menninger (now Colonel, and chief psychiatric consultant to the Surgeon General of the U. S. Army) has carried this application considerably farther at the Menninger Sanitarium. From the detailed case study of the individual patient, estimates are made of his unconscious emotional needs—for affection, for relief of guilt feelings, for outlet of aggressive impulses, for narcissistic gratification—and a treatment program is set

up to meet his individual needs and conflicts. Those particular activities in occupational therapy, recreational therapy, bibliotherapy, etc., are prescribed which are most likely to meet the conflict situation of that individual patient. Even the attitudes the nurses and therapists should take toward each patient are similarly prescribed and modified subsequently as the condition of the patient changes. It is obvious that full application of these ideas to intensive individualized hospital therapy requires a low patient-psychiatrist, patient-nurse, and patient-therapist ratio, but it is not out of the question that it be applied in modified degree to groups of similar patients in larger psychiatric hospitals. At any rate, such scientific study of the therapeutic values in the various elements of occupational and recreational activity gives these important therapies the significance and dignity they deserve, removing them from the category of "busy work to keep the patients' minds off of their troubles."

The third and most significant trend in psychoanalysis, as it relates to the broad field of psychiatry, is that toward modification of the so-called "orthodox" technique, including the general application of psychoanalytic principles to other types of psychotherapy. Psychotherapy is undoubtedly the oldest therapeutic measure used by mankind and has included, in its long history, every type of communication between therapist and patient. Although every type has undoubtedly had its successes and failures, it was not until the work with cathartic hypnosis applied to hysterics by Breuer and Freud, first published in 1893, that, to quote from Zilboorg's *A History of Medical Psychology*,<sup>3</sup>

a therapeutic agent had led to the discovery of the cause of the illness while attacking or attempting to remove this cause. It was the first time in the history of psychopathology that the cause of illness, the symptoms generated by the cause, and the therapeutic agent revealing and removing the cause were combined in one succession of factors. It is doubtful whether the full meaning of this historical fact has as yet been properly appreciated. It was this combination that made clinical psychopathology

<sup>3</sup> Zilboorg, Gregory: *A History of Medical Psychology*. New York, W. W. Norton & Company, 1941, pp. 486-7.



a true medical discipline for the first time in the history of medicine's struggle for the incorporation of neuroses and psychoses into its field of scientific investigation and treatment.

Freud's subsequent observations, investigations and findings regarding the "transference" comprise a contribution of inestimable value to scientific psychotherapy as distinguished from an empirical psychotherapy, or psychotherapy based on magic, superstition or on the narcissism of the therapist. The illumination of the transference relationship by psychoanalysis has demonstrated conclusively that the power for mental healing through interpersonal communication resides in the interplay of emotional attitudes between patient and physician.

Freud was always dubious about the suitability of psychoanalytic therapy for the psychoses. He felt that the psychotic patient was incapable of therapeutically usable transference feelings toward the therapist, and called the psychoses the "narcissistic" disorders, as contrasted with the psycho-neuroses, which he called "transference" disorders. However, intensive psychotherapy using psychoanalytic principles, or "modified psychoanalytic treatment," of the psychoses by many psychoanalysts has shown that psychotics are capable of an especially intense, unpredictable and stormy kind of transference requiring far more skillful technique on the part of the therapist than in the treatment of the neuroses. Furthermore, unskillful handling of the transference with a neurotic patient can usually be rectified, whereas unskillful handling of the transference with a schizophrenic often means the termination of that therapist's treatment attempt with that patient. The extreme sensitiveness of the schizophrenic patient to the therapist's behavior and the significance of this factor in the therapy have been noted by many writers, especially Sullivan, Fromm-Reichmann, Bullard, Zilboorg, Chas-sell, Blitzsten, Simmel, Hill, Karl Menninger and the writer.

The especial significance of this observation of the importance of the therapist's own attitude in treating schizophrenic patients is that it has necessitated a much closer scrutiny of counter-transference in the psycho-therapist, as well as a more careful study

of the subtle emotional interplay between patient and therapist. One of the fundamental deficiencies in psychoanalytic case reports in the past has been the tendency to report the patient's productions and behavior without any reference to the analyst's productions and behavior, as if the analyst were merely the automatic implement of some infallible analytic force, and played no part, other than a strictly scientific one, in stimulating the patient's reactions and verbal material. The attempted psychotherapy of schizophrenics makes the therapist extremely humble in this respect, and he learns that the patient cannot be expected to adjust himself to the psychiatrist's Procrustean therapeutic bed. It is the psychiatrist who must be flexible and do the adjusting to the patient's emotional needs and conflicts. The recognition and illumination of the rôle played by the therapist is a factor of enormous significance in the progress of the science and art of psychotherapy.

Modification of psychoanalytic technique for treating psychotic patients is not the only contribution of psychoanalysis to psychotherapy. The factors of transference and resistance are present in every kind of psychotherapy, whether recognized by the therapist or not. If they are recognized, understood and properly handled, good scientific psychotherapy is done; if they are ignored or overlooked any progress in the case is accidental. The time is past when psychoanalysts look with disdain on any type of psychotherapy which does not fulfill all the conditions of orthodox psychoanalytic technique. Psychoanalytic treatment is too time-consuming and expensive for all but a few patients, and the small number of analysts plus the small case load each can carry and the considerable length of time each case must run make a remarkably small allotment of psychoanalytic therapy compared to the increasingly large number of patients desiring psychiatric help. Shorter, less expensive, less deep methods are imperative therapeutic tools for psychiatrists to have. In response to this need we are developing again the use of hypnoanalysis, or hypnosis using psychoanalytic principles, various kinds of narco-therapy—narco-analysis and narco-synthesis—also using psychoanalytic principles and



shorter forms of face-to-face psychotherapy based on proper appreciation of transference, resistance and unconscious conflicts. The large number of psychiatric casualties in the armed forces makes these developments all the more necessary, and just as the first World War gave an enormous impetus to the specialty of psychiatry, so will the present war make tremendous demands on psychiatry which can be met only by many more trained men and shorter effective treatment methods.

In spite of the modifications, refinements and applications of psychoanalytic therapeutic principles just referred to, one must admit that the actual therapeutic force thrown against human psychological suffering by psychoanalysis must remain relatively small. The number of patients needing and seeking treatment is growing faster than the number of psychiatrists trained to treat them, no matter how much psychotherapy is improved and shortened. This does not minimize the therapeutic contribution of psychoanalysis to psychiatry and psychotherapy, but does mean that the most far-reaching and widely applicable contribution of psychoanalysis to psychiatry is its dynamic psychology, its illumination of mental mechanisms and its method for studying and understanding mental illness.

The future course of American psychoanalysis will certainly be intimately bound up with the future of American psychiatry. The brief ten years of existence of this Section on Psychoanalysis have shown that we have mutual scientific contributions to make, reciprocal checks and balances to exercise, common interests and a mutual respect. May this section continue through the years to be the forum in which our common scientific interests are shared in open discussion as well as the official symbol of the bond between us.

#### BIBLIOGRAPHY

1. Brill, A. A. Remarks introductory to the symposium on the relation of psychoanalysis to psychiatry. *Am. J. Psychiat.*, **91**: 1089-1092, 1934.
2. Bullard, Dexter M. The application of psychoanalytic psychiatry to the psychoses. *Psychoanal. Rev.*, **26**: 526-534, 1939.
3. Bullard, Dexter M. Experiences in the psychoanalytic treatment of psychotics. *Psychoanal. Quart.*, **9**: 493-504, 1940.
4. Bullard, Dexter M. The organization of psychoanalytic procedure in the hospital. *J. Nerv. and Ment. Dis.*, **91**: 697-703, 1940.
5. Chapman, Ross M. Psychoanalysis in psychiatric hospitals. *Am. J. Psychiat.*, **91**: 1093-1101, 1934.
6. Chapman, Ross M., and Weigert, Edith. Freud and psychiatry. *Am. J. Orthopsychiat.*, **10**: 855-857, 1940.
7. Chassell, Joseph. Psychoanalytic therapy in a mental hospital. *Psychiatry*, **3**: 181-188, 1940.
8. Deutsch, Albert. *The mentally ill in America*. New York, Doubleday, Doran and Co., Inc., 1937.
9. Eissler, Kurt R. Limitations to the psychotherapy of schizophrenia. *Psychiatry*, **6**: 381-391, 1943.
10. Fromm-Reichmann, Frieda. Transference problems in schizophrenics. *Psychoanal. Quart.*, **8**: 412-426, 1939.
11. Fromm-Reichmann, Frieda. Recent advances in psychoanalytic therapy. *Psychiatry*, **4**: 161-164, 1941.
12. Hendrick, Ives. The contributions of psychoanalysis to the study of psychosis. *J. A. M. A.*, **113**: 918-925, 1939.
13. Hinsie, Leland E. The relationship of psychoanalysis to psychiatry. *Am. J. Psychiat.*, **91**: 1103-1115, 1934.
14. Kirby, George H. Presidential address. *Am. J. Psychiat.*, **91**: 1-18, 1934.
15. Knight, Robert P. Application of psychoanalytic concepts in psychotherapy. *Bull. Menninger Clin.*, **1**: 99-109, 1937.
16. Knight, Robert P. Psychoanalysis of hospitalized patients. *Bull. Menninger Clin.*, **1**: 158-167, 1937.
17. Knight, Robert P. The psychoanalytic treatment in a sanitarium of chronic addiction to alcohol. *J. A. M. A.*, **111**: 1443-1446, Oct. 15, 1938.
18. Knight, Robert P. Psychotherapy in acute paranoid schizophrenia with successful outcome: A case report. *Bull. Menninger Clin.*, **3**: 97-105, 1939.
19. Knight, Robert P. Evaluation of the results of psychoanalytic therapy. *Am. J. Psychiat.*, **98**: 434-446, 1941.
20. Menninger, Karl. Psychoanalytic psychiatry. *Bull. Menninger Clin.*, **4**: 105-121, 1940.
21. Menninger, William C. Individualization in the prescription for nursing care of the psychiatric patient. *J. A. M. A.*, **106**: 756-761, March 7, 1936.
22. Menninger, William C. Psychiatric hospital therapy designed to meet unconscious needs. *Am. J. Psychiat.*, **93**: 347-360, Sept. 1936.
23. Menninger, William C. Psychoanalytic principles applied to the treatment of hospitalized patients. *Bull. Menninger Clin.*, **1**: 35-43, Nov. 1936.
24. Menninger, William C. Individualization of psychiatric hospital treatment. *Wisc. Med. J.*, **37**: 1086-1088, 1938.
25. Menninger, William C. Psychoanalytic principles in psychiatric hospital therapy. *Southern Med. J.*, **32**: 348-354, 1939.

26. Reider, Norman. Hospital care of patients undergoing psychoanalysis. *Bull. Menninger Clin.*, **1**: 168-175, 1937.
27. Schilder, Paul. The influence of psychoanalysis on psychiatry in America. *Psychoanal. Quart.*, **9**: 226-228, 1940.
28. Simmel, Ernest. Psychoanalytic treatment in a sanitarium. *Int. J. Psychoanal.*, **10**: 70-89, 1929.
29. Sullivan, Harry Stack. Environmental factors in etiology and course under treatment of schizophrenia. *Med. J. and Rec.*, **133**: 19-22, Jan. 7, 1931.
30. Sullivan, Harry Stack. The modified psychoanalytic treatment of schizophrenia. *Am. J. Psychiat.*, **88**: 519-541, 1941.
31. Sullivan, Harry Stack. Psychiatric training as a prerequisite to psychoanalytic practice. *Am. J. Psychiat.*, **91**: 1117-1126, 1934.
32. Weininger, Benjamin. Psychotherapy during convalescence from psychosis. *Psychiatry*, **1**: 257-264, 1938.
33. White, William A. Presidential address. *Am. J. Psychiat.*, **82**: 1-20, 1925.
34. Zilboorg, Gregory. Affective reintegration of the schizophrenias. *Arch. Neurol. and Psychiat.*, **24**: 335-347, 1930.
35. Zilboorg, Gregory. Ambulatory schizophrenias. *Psychiatry*, **4**: 149-155, 1941.
36. Zilboorg, Gregory. *A history of medical psychology*. New York, W. W. Norton and Co., 1941.

## SPONTANEOUS CONVULSIONS FOLLOWING CONVULSIVE SHOCK THERAPY<sup>1</sup>

BERNARD L. PACELLA, M.D., NEW YORK, N. Y.

AND

S. EUGENE BARRERA, M.D., ALBANY, N. Y.

Considerable speculation has centered about the possibility of inducing a post-treatment epileptic state in psychiatric patients who have received convulsive shock therapy. Observations have been reported of patients who developed for the first time in their lives, spontaneous convulsions subsequent to either metrazol or electric shock therapy. Read(1) examined a group of 359 patients who had received metrazol therapy and observed that 4 of them suffered one to three spontaneous epileptic seizures after cessation of treatment. An electroencephalogram was taken in only one of these cases after treatment was ended, and showed "characteristic spindles as seen in grand mal epilepsy." The author concluded that "these indications of brain damage require further study." Hartenberg(2) reported the development of spontaneous seizures in a patient some months after a course of metrazol therapy; however, this case is only vaguely described. Liebert(3) has reported epileptic convulsions occurring 3 to 24 months after the cessation of metrazol treatment in 8 schizophrenic patients who had no convulsive seizures prior to the treatment and in whom there were no family backgrounds of epileptic manifestations. Electroencephalograms were apparently recorded in some of these patients after the attacks had occurred, and were described as showing "a large variety of changes which are usually seen in epileptic disorders." However, tracings in these cases were not taken before shock therapy was instituted. Levy, Serota and Grinker(4) mention one case of general epileptiform convulsions several weeks after 2 electrically induced convulsions for a neurotic depression. These convulsions occurred one week after severe

rectal hemorrhages resulting from a rectal polyp, had produced a severe hemorrhagic anemia. The post-therapy EEG was described by the authors as showing "some disappearance of alpha waves and moderate delta activity but no 3 or 4 per second waves or other cerebral dysrhythmia suggestive of an epileptic disturbance." They stated that it is conceivable that some damage to the cortical neurons was produced and that a convulsive disorder may develop in rare instances as a result of convulsive shock therapy.

Parfitt(5) described the case of a 22-year-old man diagnosed as schizophrenia, who had received a course of 10 convulsions, and a short time later received insulin coma therapy. Some weeks later he had a spontaneous fit with several others occurring subsequent to this attack, so that it became necessary to control the convulsive disorder with barbiturate. Although no electroencephalographic studies are reported for this case, the patient gave a history of having had convulsions at intervals for 6 months when one year old, and of having suffered from chorea between the ages of 7 and 14 years.

None of the cases reported in the literature and mentioned above as having developed spontaneous convulsions had had any pre-treatment EEGs although some of them did have post-treatment records. At the Psychiatric Institute we have taken routine EEGs of all patients before they received electric shock therapy, and we are therefore, fortunate in having pre-treatment records on the 2 patients who developed subsequent spontaneous seizures. These cases appeared worthy, therefore, of reporting. It is to be noted that these two instances occurred in a series of over 500 treated cases. Brief case reports follow:

CASE 1.—H. H., white male, age 22, had shown gradually increasing seclusiveness since the age of 14, with periods of moodiness and depression.

<sup>1</sup> Read at the Centenary Meeting of The American Psychiatric Association, Philadelphia, Pa., May 15-18, 1944.

From the New York State Psychiatric Institute & Hospital, New York City.



He had marked feelings of inferiority and was extremely concerned over recently developing impotence. There is no history of any convulsions in early life, or of any epileptic manifestations in the family members. A diagnosis of dementia praecox was made. Electric shock therapy was begun October 31, 1940 and was terminated December 17, 1940, with patient receiving a total of 16 convulsions. There was no appreciable improvement in the patient's status. Approximately 6½ weeks after termination of treatment, the patient had a severe generalized convulsion in bed, initiated by a loud out-cry. Since then, and during the subsequent three years he has continued to have at least one convulsion a month in spite of anti-convulsant medication. An EEG taken prior to the treatment showed diffuse abnormality consisting mainly of high amplitude 4 to 6 cycle per second potentials over the entire cortex. Subsequent to the course of shock therapy, repeat EEGs showed an increased degree of abnormality with much serial 3 to 4 cycle per second activity. This abnormality has continued for 1½ years subsequent to treatment at which time the last EEG was taken (Fig. 1).

CASE 2.—S. K., white male, age 20, was admitted to the hospital January 5, 1943, with a diagnosis of schizophrenia of recent development. He was quite confused and incoherent, extremely restless, hallucinated, incontinent, untidy and combative. Electric shock therapy was begun on January 19, 1943 and the patient received 20 electric shock convulsions at the rate of 3 times per week, without any improvement. He was placed on insulin coma treatments, being subjected to 21 comas and towards the latter part of the treatment, he received combined electric shock and insulin coma treatments. After 7 such insulin and electric shock treatments, the patient improved and treatment was discontinued on June 12. Approximately 8 weeks after the patient received his last treatment, he had a typical generalized convulsion.

An EEG taken prior to any shock treatment revealed diffuse abnormality consisting of a dominant rhythm of 7 cycle per second waves over the entire cortex. In addition, there were numerous irregularities in the wave-forms. Hyperventilation could not be done due to the inability of the patient to cooperate. After the first spontaneous convulsion, which was about 8 weeks after the last treatment, the electroencephalographic tracing revealed marked diffuse abnormality consisting of much serial high amplitude 3 to 4 cycle per second waves over the entire brain. A repeat record taken a month later revealed similar marked disturbance, while a third record taken about 2 months after the spontaneous seizure exhibited increased abnormality as indicated by very slow activity in the tracing. (Fig. 2). The abnormality was quite out of keeping with that usually observed in individuals subjected to intensive shock therapy or even combined shock therapy several months subsequent to treatment. The patient has had no further seizures to date; he had been placed on dilantin and luminal therapy for several weeks, which apparently controlled the convulsions.

## DISCUSSION

It appears to be of significance that in both cases reported, EEGs taken prior to treatment revealed diffuse abnormal activity which became more severe subsequent to treatment and remained so for relatively long periods of time. The pre-treatment EEG in case 1 (H. H.) exhibited a pattern frequently observed in epileptics. In the second case, the EEG was not characteristic of a convulsive disorder although not uncommonly seen in epileptics. It was not considered as disturbed a pattern as that noted in the first case.

In patients with normal pre-treatment EEGs, tracings taken subsequent to treatment revealed diffuse abnormalities which frequently resembled so-called "convulsive-type patterns" (Fig. 3). These records however, usually returned to normal or to the pre-shock status within 6 weeks(6). In patients who received long and intensive courses of shock therapy, the records tended gradually to approximate the normal pattern or at least to show only mild abnormalities in 3 months after treatment. In the relatively few instances where abnormalities persisted, it was noted that the abnormal activity appeared only after hyperventilation procedure. In no patient with normal pre-shock EEGs has there been a long-continued severe degree of abnormality such as was noted in the 2 patients herewith presented who exhibited abnormal tracings prior to shock therapy. This would suggest that a relatively permanent degree of dysfunction or disturbance had been produced or increased by shock therapy in these cases with the result that the convulsive threshold was lowered. It is difficult to determine whether the convulsive threshold was actually lowered in those patients of our series who had normal EEGs prior to shock therapy since none of them thus far has exhibited spontaneous seizures. It would appear, therefore, that an epileptic state is not actually produced as a result of electric shock therapy but that seizures are precipitated in individuals who were predisposed by virtue of constitutional factors to develop such seizures.

It should be emphasized that there have been many patients with abnormal pre-treatment records who did not have spontaneous convulsions subsequent to treatment. In some

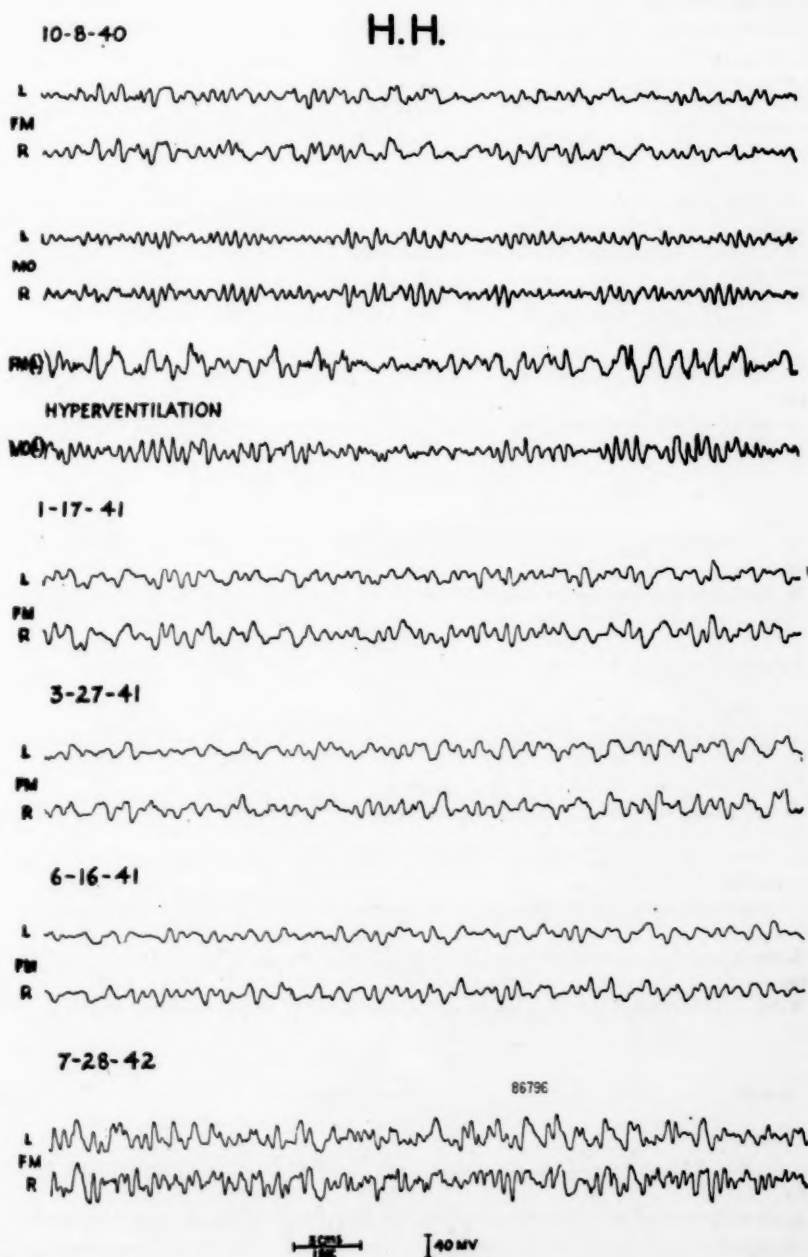


FIG. 1.—The tracing of 10/8/40 is the record taken before any shock therapy was administered. Note the slow potentials in the fronto-motor lead on both sides of the head. The slow potentials become very much increased over the frontal areas of the brain following hyperventilation procedure, while the motor-occipital lead shows relatively little change. Subsequent tracings are illustrated only with fronto-motor leads since abnormal activity was largely confined to this region. The records continue to show slow activity which seems to have increased substantially on the date of the last recording.

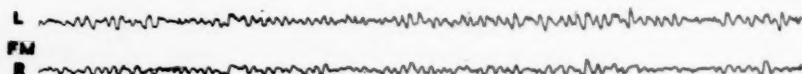
of these cases, the tracings showed high amplitude 3 to 4 cycle per second rhythm and resembled the patterns characteristically

increase in the number of subsequent seizures (7, 8) although other investigators utilizing more carefully controlled clinical

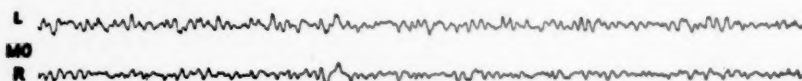
## S.K.

1-8-43

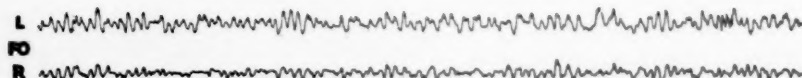
75305



75298



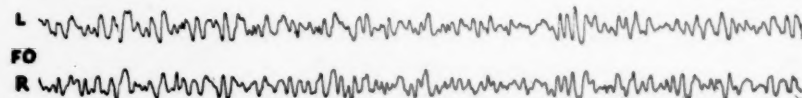
75296



8-4-43

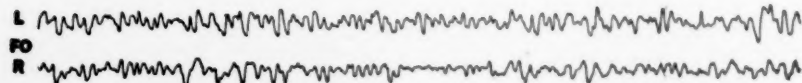
43127

43128



9-3-43

47690



10-2-43

Nº 77426

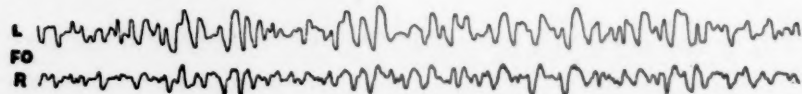


FIG. 2.—The pre-shock record taken 1/8/43 illustrates 7 cycle per second rhythm with random 6 cycle per second potentials predominating on the left side of the brain. Note the increased slow activity and the increase in amplitude subsequent to shock therapy in the records of 8/4/43, 9/3/43 and 10/2/43. In the latter there appears to be decided increase in slow activity predominating on the left side of the brain. This patient has had only one spontaneous convulsion so far, in spite of the fact that the record is markedly disturbed at the time of the last recording.

noted in epilepsy. In this connection, it may be noted that observations have been reported in which convulsive therapy was administered to epileptics with no significant

material, have found the reverse to be true in some of their material (9). However the outcome of subsequent investigations may be, it is believed that a routine EEG prior to

seiz-  
s util-  
clinical

the institution of any convulsive shock therapy is advisable, particularly where there is a history of convulsions in childhood, or evidence of epilepsy in the family. The pres-

# SUMMARY

1. Of over 500 patients who received electric convulsive therapy, 2 exhibited spontaneous generalized convulsions  $6\frac{1}{2}$  to 8 weeks

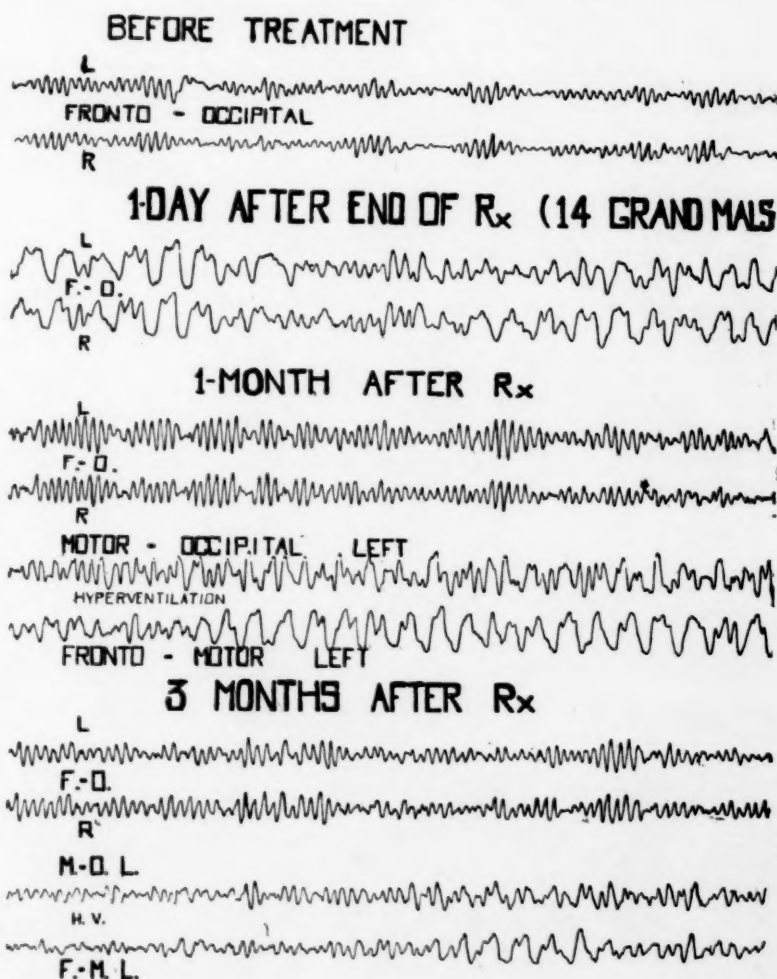


FIG. 3.—Electroencephalograms of a patient who received a full course (14 grand mals) of electric convulsive therapy. Note the serial slow-wave activity ("convulsive-type pattern") after termination of treatment. A month after treatment this serial slow activity has largely disappeared, but may still be noted on hyperventilation. Three months later, only short bursts of serial slow activity appear following hyperventilation.

ence of a diffuse abnormality in the EEG which might possibly suggest a convulsive tendency might carry with it the liability of spontaneous convulsions in patients receiving convulsive therapy.

after termination of treatment. These 2 patients had never had seizures prior to treatment, nor were there any epileptic manifestations in any of the family members.

2. Pre-treatment EEGs are reported for



the first time in patients exhibiting spontaneous convulsions subsequent to therapy. In both instances, the brain-wave tracings were abnormal prior to shock.

3. It is concluded that spontaneous convulsions following convulsive therapy are prone to occur only in those patients who have latent coinulsive tendencies as revealed by the EEG.

4. The suggestion is made that pre-shock EEGs are particularly indicated in patients who give histories of previous convulsions in childhood or later life, or who have family members exhibiting epileptic manifestations.

#### BIBLIOGRAPHY

1. Read, C. F. Consequences of metrazol shock therapy. *Am. J. Psychiat.*, **97**: 667, 1940.
2. Hartenberg, M. Epilepsie consecutive á un traitement par le cardiazol. *Ann. Med.-Psychol.*, (pt. 1), **98**: 73, 1940.
3. Liebert, E. Spontaneous convulsions following metrazol treatment. *J. A. M. A.*, **118**: 119, 1942.
4. Levy, N. A., Serota, H. M., and Grinker, R. R. Disturbances in brain function following convulsive shock therapy. *Arch. Neurol. Psychiat.*, **47**: 1009, 1942.
5. Parfitt, D. N. Persisting epilepsy following shock therapy. *Brit. Med. J.*, **2**: 514, 1942.
6. Pacella, B. L., Barrera, S. E., and Kalinowsky, L. Variations in electroencephalogram associated with electric shock therapy of patients with mental disorders. *Arch. Neurol. & Psychiat.*, **47**: 367, 1942.
7. Kalinowsky, Lothar B., and Kennedy, Foster. Observations in electric shock therapy applied to problems of epilepsy. *J. Nerv. & Ment. Dis.*, **98**: 56, 1943.
8. Robinson, Leon J. Electro-shock therapy for psychotic epileptic. (Case Report). *Dis. of the Nerv. System*, **4**: 253, 1943.
9. Pacella, B. L., Barrera, S. E. Some Considerations of the Electroencephalogram in the "Convulsive State" (Electrically Induced Seizures). *J. Nerv. & Ment. Dis.*, **96**: 125, 1942.

## THE USE OF DEMEROL IN ARTIFICIAL FEVER<sup>1</sup>

THOS. J. HELDT, M.D., NICHOLAS P. DALLIS, M.D., AND  
WILLIAM J. O'CONNELL, M.D.

The widespread use of demerol hydrochloride(1, 2, 3) as an analgesic and sedative agent in the various fields of medicine has stimulated this clinical study of its application in artificial fever therapy.

From the multiplicity of preparations currently advocated(4), it is evident that the discomfort to which a patient is subjected during five to eight hours in the fever cabinet has not been met adequately.

Morphine sulfate and its allied preparations have generally lost favor because of their depressant action on the central nervous system. Simpson and his co-workers(5), however, have used pantopon with apparent success. Dowdy and Hartman(6) favored the use of sedormid and we, too, have used it to good effect. Recent literature has reported over 40 cases of purpura hemorrhagica attributable to the use of sedormid(7, 8). Although we have not encountered any such reaction in its use, we have come to avoid our former dependence on it. Hartman and Major(9), in their study of the pathological changes resulting from accurately controlled artificial fever, warned against the selection of barbiturates, particularly sodium amytal, as a sedative in hyperpyrexia.

The care of the hyperpyrexia patient is made increasingly difficult by the fact that there is often an altered psyche resulting from the disease for which the patient is under treatment. The maintenance of artificial fever at a high therapeutic level reduces the margin of safety. For this reason, one is reluctant to utilize any drug which might further jeopardize the safety of the patient. The technician in charge of the fever cabinet, therefore, is much in the same position as the nurse in charge of the maternity labor room. When the patient is pleading most for relief, the technician has been able to do little more than wipe the perspiration

from his forehead and attempt to console him with kindly words.

### PHARMACOLOGY OF DEMEROL

Demerol (1-methyl-4-phenyl-piperidine-4-carboxylic acid ethyl ester hydrochloride) is a white crystalline substance slightly soluble in water with a strongly alkaline reaction. Its hydrochloride is readily soluble in water with a neutral reaction. It was discovered in 1939(10) while searching for drugs possessing the spasmolytic properties of the atropine series. An unexpected finding was its analgesic effect on the central nervous system of animals.

The pharmacological effects of demerol(11) are analgesic, sedative and spasmolytic. The analgesic effect has been demonstrated quantitatively by clinical and experimental methods(12, 13) and appears to be halfway between morphine and codeine(14). In this respect 50 mg. of demerol (parenterally) is twice as potent as 22 mg. of codeine; 125 mg. of demerol is equivalent to 17 mg. of morphine. Clinically, 100 mg. of demerol has the effect of 10 mg. of morphine. The sedative effect of demerol following its parenteral administration usually lasts about two hours, and has no untoward after-effects. The spasmolytic property of demerol has been demonstrated on the contractions of the ureter(3) and by intubation studies(13) on the human intestinal tract. The latter is due to a nullifying (atropine-like) action on the parasympathetic nerve endings and a depressing (papaverine-like) action on smooth muscle.

### CLINICAL STUDIES

The purpose of this paper is to report the use of demerol hydrochloride in 22 patients undergoing artificial fever in the Kettering hypertherm for a total of 165 treatments. All treatments were carried out by the same technician.<sup>2</sup>

<sup>1</sup> From the Division of Neuropsychiatry, Department of Medicine, Henry Ford Hospital, Detroit, Michigan.

<sup>2</sup> Miss Hazel MacKay, R. N., whose understanding care has added much to the comfort of the patients here reported.

Nineteen of the 22 patients treated had central nervous system syphilis. Eleven of these had the parietic type, 3 the tabetic type, while 5 had tabo-parietic involvement. Four luetic had mental changes of psychotic proportions. Of the non-luetic cases treated, one had gonorrheal arthritis, one had Sydenham's chorea, and the third had subacute bacterial endocarditis. The youngest patient to receive treatment was a seventeen-year-old girl. The oldest was a sixty-five-year old parietic male.

Those patients treated for central nervous system syphilis were required to receive a minimum of fifty hours of therapeutic fever. Fever was regarded as therapeutic at and above 104.6 degrees F., taken rectally. Attempt was made to maintain the temperature at 105.6 degrees F. The luetic patient who received five hours of therapeutic fever during a treatment was in the cabinet between six and a half to eight hours. Treatments were usually at weekly intervals. The patient with gonorrheal arthritis was given two treatments each of three hours' duration with the temperature maintained between 106 and 107 degrees F. The case of chorea received two or three treatments each week for a total of ten treatments. The case of subacute bacterial endocarditis received only one treatment.

An initial dose of 100 mg. of demerol hydrochloride was given intramuscularly as the patient was placed in the Kettering hypertherm. Blood pressure readings were recorded before the patient entered the cabinet and at half hour intervals thereafter. Temperature, pulse and respirations were recorded at fifteen minute intervals throughout the entire procedure. None of these recordings showed any significant change as a result of the injection of demerol. A second dose of 100 mg. of demerol was again given parenterally between two and three hours after the first dose. Most patients were able to be carried comfortably throughout each treatment without the need for additional demerol. A third injection of 50 or 100 mg. was required at another two to three hour interval on an average of one out of every seven treatments. Objective and subjective improvement in the general comfort of the patient was noted approximately fifteen minutes following each injection of demerol.

The usual apprehension so often seen in the hyperpyrexia patient was noticeably allayed by demerol. In addition, there was little tendency to delirium, with its resulting confusion. The fact that the sleep induced by demerol was not deep made management of the patient less difficult. The patient could be easily awakened to take liquids and to follow whatever instructions were necessary in his care.

In the 165 treatments in which the use of demerol was observed, nausea was encountered on twenty occasions and emesis on two occasions.

Five of the 22 patients had three to five treatments each with other preparations (sedormid, sodium phenobarbital, and/or paraldehyde). All 5 patients were more difficult to manage and subjectively were worse without the use of demerol.

#### PREPARATION OF PATIENTS

Patients referred for fever therapy are subjected to a complete physical examination, with laboratory investigations, to evaluate their general health, and their cardiovascular-respiratory status in particular. It is not implied that selection of patients is eliminative, but rather that full cognizance is taken of the presence of organic disease so that the patient may be watched more diligently from that standpoint.

Most patients are treated in the out-patient division, but they are required to take a bed in the hospital the evening before their treatment and they are not permitted to return to their home until late in the day on which treatment was received. In this way, these patients miss only one day from their occupations.

Each patient is given four 15 grain enteric coated sodium chloride tablets and instructed to take two tablets in the morning and two in the afternoon of the day preceding his treatment.

After admission to the hospital, following a high carbohydrate meal, the patient is given a saline enema. At bedtime, he is given 500 cc. of sweetened orange juice to drink. At 6.30 in the morning of the day of the treatment an intravenous infusion of 500 cc. of 5 percent glucose in normal saline is given and the patient is sent to the fever therapy

room at eight o'clock. During the actual hyperpyrexia treatment the patient is requested to drink repeatedly of a 3 percent salt solution. The average intake is between 3000 and 4000 cc. during a five hour treatment.

#### CASE REPORTS

J. G., age 65, was referred for treatment because of general paresis. He had been seen previously in May, 1942, when sixty-two years of age and at which time the diagnosis had been made for the first time. Because of his advanced age and no history of antiluetic treatment, fever therapy had not been instituted. Chemotherapy was advised and undertaken. He had continued comparatively well until eight weeks prior to his second admission on June 11, 1944, when he showed marked personality changes. At that time it was judged that fever therapy should be instituted although the dangers associated with such treatment in a man of sixty-five years were recognized. Accordingly, he was given eleven treatments in the hypertherm cabinet for a total of fifty-four hours. The temperature ranged between 104.6 and 106.4 degrees F. At the completion of seven treatments it was necessary to interrupt therapy for three weeks because of the poor general condition of the patient. Despite the fact that throughout the period of therapy the patient had continued actively psychotic, the technician had been able to complete each treatment without unusual difficulty on two doses of demerol of 100 mg. each. The blood pressure after the initial dose of demerol ranged at or near 140 systolic and 80 diastolic. At the termination of each five hours of therapeutic fever his blood pressure averaged 110 systolic and 70 diastolic. At no time during the eleven fever treatments did the condition of the patient cause concern.

R. M., a 38-year-old housewife, was admitted to the division of general medicine on February 22, 1944, because of nervousness, loss of energy and constipation. The physical examination proved essentially negative. The laboratory studies were within normal limits except for the blood and the cerebrospinal fluid Wassermann tests which were strongly positive. The cerebrospinal fluid showed a colloidal gold curve of paretic type.

During hospitalization it was noted that the patient was emotionally unstable and at times her behavior reached major hysterical proportions. Fever therapy was advised and she received her first treatment on March 11, 1944. The first four treatments were given at weekly intervals but with considerable difficulty in management. During these treatments she received eight grains of sedormid, four grains of sodium phenobarbital, and two drams of paraldehyde. Each drug was given in the order named at one and a half or two hour intervals. Beginning with the fifth treatment demerol was given intramuscularly in 100 mg. doses at 8.30 a. m. on entering the cabinet, then again at 11.30 a. m. and at 1.45 p. m. The patient was considerably more comfortable and, except for transient periods,

was cooperative. Liquids which were previously restricted because of nausea were now taken without emesis. With the use of demerol during subsequent treatments the patient showed little apprehension in regard to the succeeding treatment.

#### DISCUSSION

The use of demerol in the case of J. G. is particularly interesting in that it was used with safety in a patient of sixty-five in which the very use of fever therapy was recognized as hazardous. In addition, the patient was easily managed despite the psychosis associated with his general paresis.

R. M. made possible a clinical comparison of the use of demerol and other sedative and analgesic drugs in the same patient.

It is significant that demerol has no tendency to accentuate the delirium which so often is associated with high therapeutic fever. Of equal significance is the fact that demerol relieves the apprehension of the patient without producing deep sleep, thus permitting the technician to awaken the patient to take fluids and to follow whatever other instructions are necessary.

The representative graph of one of the treatments with the use of demerol discloses no alteration in the cardiovascular or respiratory functions of the patient.

The safety with which demerol has been used in artificial fever should stimulate further clinical and pathological investigations of its use as a sedative-analgesic in other types of fever.

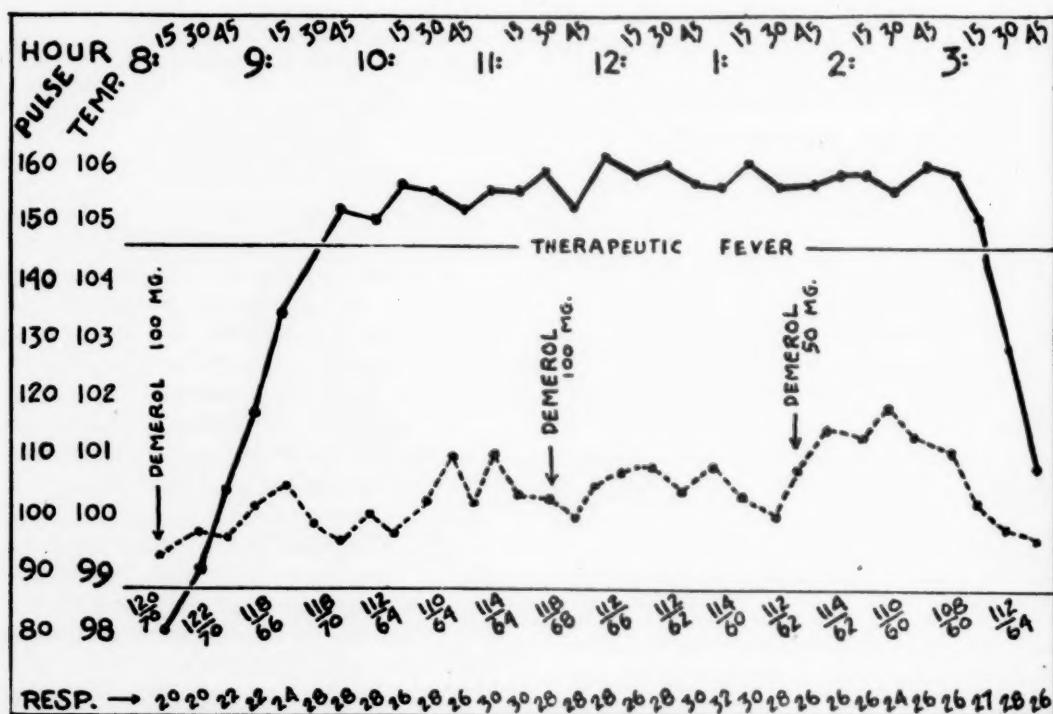
#### SUMMARY

The use of demerol hydrochloride in 22 cases receiving artificial fever therapy in the Kettering hypertherm is reported. This represented a total of 165 treatments. The youngest patient was seventeen years and the oldest was sixty-five years of age.

Treatments were usually given at weekly intervals with the temperature maintained between 105 and 107 degrees Fahrenheit for three to five hours.

In 5 cases there was opportunity to compare demerol with the use of other drugs. In all such clinical comparisons demerol was found to be superior from a standpoint of management, safety and comfort of the patient.





Heavy continuous line represents the temperature, the broken line pulse. Blood pressure is evident from the recorded systolic and diastolic readings. Observe that the base lines (abscissae) are drawn at a temperature of 98.6 and 104.6 degrees Fahrenheit. Temperature at or above the latter is considered therapeutic fever. As indicated by the descending arrows demerol was given three times. A first dose of 100 mg. was given at 8.15 a. m., a second dose of 100 mg. at 11.30 a. m., and the final dose of 50 mg. at 1.45 p. m. The temperature in all instances is taken rectally.

#### BIBLIOGRAPHY

1. Gilbert, Gordon, and Dixon, A. B. Observations on demerol as an obstetric analgesic. *Am. J. Obst. and Gyn.*, 45: 320, February 1943.
2. Batterman, R. C., and Mulholland, J. H. Demerol, a substitute for morphine in the treatment of postoperative pain. *Arch. Surg.*, 46: 404, March 1943.
3. Climenko, D. R., and Berg, Howard. The influence of demerol on the contractions of the ureter. *J. Urol.*, 49: 225, February 1943.
4. Dattner, Bernhard. The management of neurosyphilis. Grune & Stratton, New York, 1944.
5. Kendell, H. W., Rose, D. L., and Simpson, W. M. Fever therapy technic in syphilis and gonococcal infections. *Arch. Physical Med.*, 20: 614, 1939.
6. Dowdy, A. N., and Hartman, F. W. Preparation of patients for fever therapy with special reference to sedation and fluid intake. *Fever Therapy; Abstracts and Discussions of Papers Presented at the First International Conference on Fever Therapy.* New York, Paul B. Hoeber, Inc., 1937, 50-52.
7. Hoffman, A. M., Kahn, J., and Fitzgibbon, J. P. Thrombocytopenic purpura following allyl-isopropyl-acetyl-carbamide (Sedormid). *J. A. M. A.*, 110: 725, March 5, 1938.
8. Falconer, E. H., and Schumacher, I. C. Purpura hemorrhagica due to ingestion of sedormid (Allylisopropylacetyl-carbamide). *Arch. Int. Med.*, 65: 122, 1940.
9. Hartman, F. W., and Major, R. C. Pathological changes resulting from accurately controlled artificial fever. *Am. J. Clin. Pathol.*, 5: 392, September 1935.
10. Eisleb, Von O., and Schaumann, O. Dolantin, ein neuartiges Spasmolytikum und Analgetikum (Chemisches und Pharmakologisches). *Deutsche Medizinische Wochenschrift*, 65: 967, 1939.
11. Gruber, C. M., Hart E., and Gruber, C. M., Jr. Pharmacology and toxicology of the ethyl ester of 1-methyl-4-phenyl-piperidine-4-carboxylic acid (demerol). *J. Pharmacol. and Experimental Ther.* 73: 319, November 1941.
12. Barlow, O. W., Climenko, D. R., and Homberger, E. Comparative potentiating effects of certain therapeutic agents on sodium evipal hypnosis. *Society for Experimental Biology and Medicine Proceedings*, 49: 11, January 1942.
13. Batterman, R. C., and Himmelsbach, C. K. Demerol, a new synthetic analgesic. *J. A. M. A.*, 122: 222, May 22, 1943.
14. Hardy, J. D., Wolff, H. G., and Goodall, H. Observations on the spatial summation of pain. *J. Clin. Investigation*, 19: 649, 1940.

PSYCHIATRIC INTERNSHIP<sup>1</sup>

GROSVENOR B. PEARSON, M.D., AND KATHRYN L. SCHULTZ, M.D.

*Pittsburgh, Pa.*

It has become apparent since Pearl Harbor that present training in psychiatry is inadequate for the needs of the armed services. That some knowledge of psychiatry is necessary in their present work is a statement made by most of the non-psychiatrically trained military physicians with whom this subject has been discussed. They say that they could be using something they never were given. Their peace-time complacency has been jolted. Some good may come of this.

Again, the establishment of military training courses in both the Army and the Navy, especially the School of Military Psychiatry under Colonel William Porter, is implied criticism of the state of civilian psychiatric teaching and training. Directly to the point are two recent statements made by Colonel Porter: "We find that student officers coming to us are very deficient in neurology and clinical psychology, and suggest that provision for better instruction be afforded the undergraduate medical student, in order that he may be prepared for military service." And, "I will be glad to be quoted in regard to the deficiency in preliminary education of neuro-psychiatrists. It is not a military secret that the supply of psychiatrists for the Army from civilian life has been practically exhausted, and it will be necessary to have the War Department devise some scheme of training young medical men for ward officers in army hospitals."

At what point can this deficiency in training be made good? Ebaugh and Rymer have pointed out that the average medical school course in psychiatry is inadequate, and suggestions for improvement have been made. With this aspect of the problem we are not now concerned. The internship

offers another opportunity for training, but it would appear that little attention usually is paid to the needs of the intern so far as instruction in psychiatry is concerned.

While lengthy residencies and intensive refresher courses are available (as at Boston, Baltimore, and Colorado; at the Metropolitan State Hospital, and in New York and Philadelphia, respectively), they are open only to a selected few, or have certain other limitations. The intern, tomorrow's average physician with an average medical practice—which, in turn, means a practice bristling with psychiatric problems regardless of the field of specialization, usually finds nothing prepared for him, and is the loser unless he has had one of the few good courses given in medical schools.

Leaving aside the question of residencies of this sort, data on approved internships for 1942, as supplied by the A. M. A., indicate that of the 700-odd hospitals offering upwards of 8000 internships, approximately 60 only include a psychiatric service in the rotating internship. This does not include an unspecified number of substitutes, such as the inclusion of psychiatric patients on medical and neurological services, and the so-called "consultation service." While such modifications frequently offer extremely valuable experience, they require an administrative re-organization of the hospital which cannot be achieved in a limited time.

The hospitals including a psychiatric service in the internship, previously mentioned (8 percent of those approved for internship), offer to approximately 2200 interns, (25 percent of the total number) what is supposed to be a supervised and practical fifth year of medical education. Generally speaking, these hospitals are big institutions with many interns, have well-rounded-out teaching programs, active staffs, and are associated with medical schools. The psychiatric service may be an integral part of the parent hospital, or secured through an affiliation with a mental hospital.

<sup>1</sup> Read at the Centenary Meeting of The American Psychiatric Association, Philadelphia, Pa., May 15-18, 1944.

From the Western State Psychiatric Hospital and the Department of Psychiatry of the University of Pittsburgh School of Medicine, Pittsburgh, Pennsylvania.

Seventy-five percent of internships are given in hospitals without a psychiatric service (92 percent of hospitals). These hospitals, because they do not include a psychiatric service, seem to leave themselves open to the criticism of not offering the intern the quality of post-graduate training he should get.

Much could be said about psychiatric teaching today. That it falls short of the mark seems to sum it up reasonably well. The present World War, as did the last, has emphasized the psychiatrists' importance. Unusual demands are being made on him and much attention has turned toward the production of more specialists. The demands of the armed service for psychiatric personnel have greatly interfered with teaching activities and replacement programs. The curtailment of intern and resident staffs in hospitals is a further handicap. While the psychiatric burden is heavy enough now, it probably will be worse after the War. The more physicians who can be given an orientation in psychological medicine now, the better the future outlook.

Obviously, what has been said is leading up to a recommendation that general hospitals revise their educational programs so as to include a psychiatric service. This would not, of course, be easy; nor would it be impossible. General medicine will have to concede a place of importance to the psychiatric service in the internship. Psychiatrists should insist on this being done. The manpower problem will need further examination. However, this teaching is necessary, and mental hospitals are ready for development, provided the service cannot be arranged in the general hospital. As an example of what can be done, the experience at the Western State Psychiatric Hospital in the last year is cited.

In April, 1943, the hospital undertook to furnish instruction in psychiatry to interns from the University of Pittsburgh Medical Center (Magee Hospital, bed capacity, 309; Presbyterian Hospital, 218; Eye and Ear Hospital, 101; Women's Hospital, 150; Children's Hospital, 194; Municipal Hospital, 224; and Psychiatric Hospital, 136). This was mutually decided upon as a natural step, a long-planned union between a group of teaching hospitals and a new state in-

stitution designed for teaching and training. It was arranged for interns to live in the hospital. The relationship to the other units of the Medical Center was strengthened by the appointment of a staff of consultants representing the heads of departments in the other institutions. General principles relative to interns were adopted and the Director appointed to the faculty of the Medical School and to certain committees in the Center.

The Psychiatric Hospital had a decided initial advantage in developing a program because teaching was its primary interest, its staff a full-time one, and the pressure of business such that ample attention could be paid the intern. A schedule was arranged to give him the greatest possible benefit: thrice-weekly clinical conferences, psychological seminars, the use of a carefully chosen and extensive library, occasional field trips to other institutions, and practically individual instruction. Patients were chosen, as far as possible, in accordance with their value for teaching purposes. There was adequate distribution among the different types of psychoses, both quiet and more disturbed patients being available. Where possible, soldier material was used because of the practical points involved. Because of the nature of the admission procedure (transfer from other hospitals) the proportion of patients having a good prognosis was probably lower than would be the case if patients were admitted directly from the community, and certain treatment procedures best adapted to the recovering (rather than chronic) patient received minimum attention; however, since the intern's service was too short to enable him to follow the progress of individual patients, this factor probably did not constitute a handicap.

Since the inception of the program, 32 interns have had a psychiatric service here as part of their rotating internship, at first in pairs for a 25-day service, later singly for a 12- or 13-day period. Inasmuch as the interns enter this phase of training with varying degrees of preparation, with varying attitudes ranging from interest to outspoken aversion, and with varying personal qualifications which make it either easier or more difficult for them to comprehend in a brief space of time the psychiatric ma-



terial offered, the routine has been arranged individually to a great extent.

It should be apparent that, in the short period the service allows, it would be difficult to give the intern the combination of extensive practical work and of discussion of fundamental psychiatric concepts which the practicing physician could use; hence the most that we have expected may be summarized as follows: (1) that the intern renew his acquaintance with the main groups of mental disorders; (2) that he acquire, through attending staff conferences and presenting cases, an awareness of what constitutes psychiatrically significant material; (3) that he gain, insofar as he is able, a respect for the personal adjustments of the patients with whom he deals, and an ability to listen to the patient who brings up his personal problems; (4) that he become familiar with the usual type of psychiatric hospital treatment, including the use of occupational therapy and hydrotherapy. In addition, most of the interns have had an opportunity to acquaint themselves with the inter-relationship between social work and psychiatry either by going over case-material from the out-patient department, or by seeing in staff conference cases with which social agencies were working.

The comments of the interns on the service offered have been of interest, especially when considered with objective observations of the intern's performance. At first, the interns complained of not having enough work to do; it was found that this was correlated with an elastic schedule which allowed the intern free time for work on his initiative. A more rigid schedule, adopted later, resulted in greater satisfaction on the part of the interns, although to some extent it substituted passive listening for more active participation. Quite a few interns were critical of the slow turnover, not realizing that this was deliberately planned so that each patient could be seen for a period of time long enough to understand him. Another objection was lack of out-patient material; this was not considered a valid objection because the interns on the whole did not have the psychiatric background to be able independently to size up the less readily apparent psychiatric disorders, and because the service was too short

to allow follow-up of patients. With a limited staff, the responsibility of the out-patient department to patients and to referring agencies has to take precedence over the teaching of interns.

From the point of view of the hospital, the greatest criticism was of the intern's immaturity and insecurity, which showed itself in a number of ways. For instance, several interns spent a large proportion of their time sleeping, and most of them found it difficult to keep appointments for conferences and rounds. When this was brought to their attention, they explained by saying that in the general hospitals they were accustomed to keeping pretty much to themselves until they were told what to do. Several others showed a lack of responsibility rather surprising at their age. In one or two instances, more or less open rebellion appeared, until the intern's own anxieties could be dealt with. Particularly noticeable was a lack of preparation and foundation in the majority. The general impression of personal insecurity gained from the interns' performance of hospital duties was corroborated by the findings on the Rorschach "picture frustration" and "thematic apperception" tests which were given to the interns by members of the department of psychology in connection with the program of instruction.

On the whole, each intern gained enough from the service to justify its inclusion in an otherwise busy year. On coming to the hospital, interns seemed skeptical of their ability and of what they might derive from the service. It was felt that they gained if they left with nothing more than an easier manner and added confidence. Generally, they felt that their medical school preparation had not given them enough foundation, and without the psychiatric service they would have been much less prepared for the private practice of medicine. It seems impossible that any of them could have reached the midpoint of internship without having recognized at least one patient with mental symptoms on any other service; and yet several said just this, which very much suggests inadequacy on their part, with failure to recognize as psychiatric anything less than a major psychosis. On several occasions, interns said that when pa-



tients on medical or surgical services were found to have mental symptoms, the heads of the services were likely to ignore the psychological factors in the light of the somatic disease.

#### SUMMARY

It is recommended that interns be given more formal instruction in psychiatry during the fifth year of medical education. While there are many objections, the advantages to the individual seem to outweigh the disadvantages. It is believed that internships could be arranged so as to include this type of service, and that a sufficient number of mental hospitals with competent personnel for teaching could be found. General hospitals will have to concede some points, and organized protests in favor of increased psychiatric teaching would be helpful.

The experience at Pittsburgh is described

as an example of what can be done to include a psychiatric service in a rotating internship. As might be expected, the intern fresh from a busy medical or surgical service finds it hard to adjust to the different tempo of a mental hospital, with its confusing exactness. Fortunately, most interns lose all or the larger part of their fear of psychiatry as they become acquainted with it. It seems inevitable that this will be an advantage to them in later years. Formerly the average intern went into private medical practice at once or soon after his internship; today he enters the Army or Navy where the demand on him for psychiatric insight exceeds ordinary expectations. Because of this, a special effort should be made to familiarize him with the early forms of mental illness, preventive measures, social aspects, and the relationship of psychiatry to other forms of medicine.

## CLINICAL AND ELECTRO-PHYSIOLOGICAL OBSERVATIONS FOLLOWING ELECTROSHOCK<sup>1</sup>

LORNE D. PROCTOR, M.D., AND JOHN E. GOODWIN, B.A.Sc.

Toronto, Ontario

In a previous publication(1), the authors presented their preliminary findings on comparative electroencephalographic changes observed following two different types of electroshock therapy. With data from a larger series of individuals now available, a more comprehensive report can be made at this time.

Two groups of patients, comparable as to age, sex distribution, duration of illness, and proportion of affective to schizophrenic psychoses, received different types of electroshock therapy. The first group, numbering 63, was treated with 60 cycle alternating current. The second group consisting of 80 cases, received unidirectional fluctuating current. Electroencephalograms were obtained on 61 of Group 1 and 68 of Group 2.

In addition, memory tests, neurological investigations (where indicated) and listing of subjective complaints, were carried out in order to observe whether clinical complications followed electroshock. The value of the barbiturates (particularly sodium amytal) has been investigated, because of the anxiety frequently exhibited by patients coming for electroshock, and the increased incidence of vasomotor collapse following convulsions in such cases.

### APPARATUS

The raw 60 cycle alternating current apparatus is comparable to that supplied by the various commercial firms. The unidirectional fluctuating current (Reiter) apparatus is

<sup>1</sup> Read at the Centenary Meeting of The American Psychiatric Association, Philadelphia, Pa., May 15-18, 1944.

From the Department of Psychiatric Research and the Banting and Best Department of Medical Research, University of Toronto. The authors gratefully acknowledge the advice and criticism of Prof. Clarence B. Farrar, and Prof. Charles H. Best.

This work was made possible by a grant from the Rockefeller Foundation.

described in the *Journal of Nervous and Mental Disease*(2) Volume 96, 1942.

To obtain a grand mal seizure, 60 cycle alternating current requires approximately 400 to 600 milliamperes at 80 to 135 volts, for 0.1 to 0.3 second (3 to 24 watt-seconds). The Reiter apparatus, delivering fluctuating unidirectional current from a 60 cycle source, requires only 30 to 55 milliamperes at 10 to 25 volts, for 2 to 4 seconds (0.6 to 5.5 watt-seconds); with a 25 cycle source approximately 25 percent less power is required.

The electroencephalographic apparatus consisted of a four channel instrument using the Grass type of ink-writing oscillograph.

*Technique.*—The technique is fundamentally that used in standard convulsive therapy. In using the 60 cycle, the electrodes were placed bi-temporally; with the Reiter apparatus left temporal and vertex locations were used. As many as three trials were made at each treatment, if such were necessary, to obtain a grand mal seizure. Electroencephalographic recordings were taken before treatment and after the 6th grand mal and any subsequent grand mal convulsion. In each case the recording was taken between 5 and 24 hours after the seizure. We had observed that there was little decrease in the slow frequency content, when present, for approximately two days following the last electroshock. In order to evaluate the amount of slow wave activity observed in the EEGs, a five-point grading scale essentially similar to that used by Davis(3), was employed. Thus the symbol — indicates no slow wave activity. The various amounts are rated +, ++, +++, the latter representing a very large slow wave content.

### FINDINGS

1. *Electroencephalographic Changes.*—It will be seen in Table I that the incidence of slow waves following electroshock by

unidirectional fluctuating current was considerably less than when 60 cycle alternating current was used. The percentage of unimproved or slightly improved patients showing severe slow wave activity was approximately the same for both types of shock. Among the social and full remissions, however, the difference was quite marked. In this group the incidence of slow waves was greater than average when alternating current was used, and less than average when unidirectional fluctuating current was used. A chi square test of Table I shows that these differences are significant statistically ( $P=.01$ ).

It was noted that following alternating current shock, the alpha rate tended to be somewhat slower by about .5 to 1. cycle

type of electroshock. The test consisted of simple pre- and post-treatment orientation questions, together with estimations of memory span and general retentiveness. In addition, check-ups were made of the immediate effects of treatment upon memory by having the patient memorize a short paragraph before his treatment and requesting him to repeat it after electroshock. In a small number of cases (5) there has been a mild confusion, lasting several days and occurring during the last half of the series (following the 4th, 5th, or 6th grand mal). This confusion is manifested not by difficulty of memorizing as is required in the memory test, but by inability after electroshock to maintain a clear conception of complex plans for activities following recovery from mental

TABLE I

SLOW WAVE ACTIVITY FOLLOWING ELECTROSHOCK ALTERNATING AND UNIDIRECTIONAL CURRENTS

| Slow wave content | A. C. shock                  |                            |       | Unidirectional (fluctuating) |                            |       | Total |
|-------------------|------------------------------|----------------------------|-------|------------------------------|----------------------------|-------|-------|
|                   | Unimpr., sl. impr., relapsed | Social and full remissions | Total | Unimpr., sl. impr., relapsed | Social and full remissions | Total |       |
| +, —, +—          | 10 (45%)                     | 15 (39%)                   | 25    | 18 (49%)                     | 24 (78%)                   | 42    | 67    |
| ++, ++++          | 12 (55%)                     | 24 (61%)                   | 36    | 19 (51%)                     | 7 (22%)                    | 26    | 62    |
| Totals            | 22 (100%)                    | 39 (100%)                  | 61    | 37 (100%)                    | 31 (100%)                  | 68    | 129   |

Chi square = 11.38 deg. freedom = 3  $P = .01$ .

per second. This change was not observed among the group receiving unidirectional shock.

A slight trend, consistent but not significant statistically on the number of cases available, ( $P=0.1$ ) suggested that psychotics with a slower alpha rate than average are somewhat more likely to develop slow waves after electroshock than are those with a faster alpha rate.

In 25 cases that were given sodium amytal prior to electroshock therapy so as to produce a mild hypnosis, the drug did not appear to affect the incidence of slow waves following electroshock by either method. The administration of sodium amytal, orally or intravenously, will raise the convulsive threshold so that approximately 25 percent more power is required to obtain a grand mal seizure.

2. *Clinical Observations.*—The memory tests to date on a small group of patients (30) have not demonstrated any marked impairment of this process following either

illness. In each case when these plans were again discussed after electroshock the patient stated that he could remember portions of the plans but was unable to piece them together. Apparently we are dealing with a more complex aspect of memory than can be tested by our memory test, which is of necessity a relatively simple one, suitable for use with psychotic patients.

There has been only one case in which clinical signs have suggested a significant central nervous system complication, and in this case the EEG revealed +++ slow wave content during his clinical abnormalities. Clinically this patient manifested confusion, anorexia, headache, dizziness, and on one occasion projectile vomiting.

The use of the barbiturates as a hypnotic has reduced, in patients demonstrating extreme apprehension, the degree of vasomotor collapse following convulsion by electroshock.

The unidirectional type of current apparently is not as efficient in producing a com-

plete retrograde amnesia as is the alternating current. Because of this, patients are more likely to be apprehensive when treated by the former method. This apprehension can be counteracted by the use of hypnotics.

### DISCUSSION

It is customary to associate slow wave activity in the EEG with an organic etiology, as for example in the case of brain lesions. The appearance of slow waves following electroshock is therefore of interest, since it indicates that some dysfunction of cerebral processes has occurred.

Slow wave activity, if it appears at all, is usually discernable after the 3rd or 4th seizure, and increases rapidly in content as treatment continues. The amplitude may be quite high, and the frequency anywhere from  $2\frac{1}{2}$  to 7 cycles per second. While it occasionally appears only in frontal lobes, especially among patients whose slow wave response is slight, as a rule the entire cortex becomes involved. After two or three days it begins to subside, and virtually disappears in ten days or two weeks. However, a residual 6 cycle per second activity will in some instances persist for many months after electroshock therapy has been terminated. Since many presumably normal individuals exhibit a similar 6 cycle activity, its presence in post-electroshock cases is probably not of serious import.

The rapid recovery from the slow wave stage after electroshock is in marked contrast to those post-metrazol cases which we have followed, where the dysrhythmia has persisted for much longer periods. This may be an indication that electroshock produces neurological changes of a much more transient nature.

A comparison of the two groups of patients treated with alternating current and unidirectional fluctuating current, shows that 60 percent of the former showed slow wave activity of sufficient content to warrant a ++ or +++ category after six effective shocks, whereas only 35 percent of the cases in the second group showed a similar amount of abnormal frequencies.

Two factors may be of importance here. Unidirectional current produces an effective

convulsion with a much smaller power output. In addition, the difference in electrode placement might account in part for the observed differences in slow wave content.

Table I shows that alternating current was more effective therapeutically. This difference between the two types of therapy may be valid, but we believe that further investigation is needed to determine this point, as the groups treated were not exactly comparable from a prognostic standpoint.

*Possible Prognostic Value.*—When unidirectional shock was used, there was a noticeable difference in slow wave response between the relatively unimproved cases and those who showed social or full remissions. Among those patients making good recoveries much less post-shock slow wave activity was seen. No fully recovered patients in this series showed sufficient slow wave activity to warrant inclusion in the ++ or +++ categories. This difference, which in our results was statistically valid, has proven to be of prognostic value. The appearance of widespread slow waves towards the completion of a shock series has usually been associated either with little or no clinical improvement, or with subsequent relapse.

### SUMMARY AND CONCLUSIONS

Electroencephalographic observations have been made on 129 patients approximately half of whom received convulsant therapy by means of alternating current and the other half by means of unidirectional fluctuating current.

1. It was found that there was a significant increase in the occurrence of cortical slow wave formation in the group receiving alternating current compared with the group receiving unidirectional fluctuating current.

2. The group receiving unidirectional fluctuating current showed a differential slow wave response. The full remissions did not exhibit severe cerebral dysrhythmia. The social remissions showed much less cortical slow wave activity than the group requiring continued mental hospital care. Therefore, the appearance of cortical dysrhythmia following electroshock by unidirectional fluctuating current has prognostic value.

Total

67

62

129



In addition to the patients treated in the research unit of the Toronto Psychiatric Hospital under the supervision of Dr. C. B. Farrar, the above series includes patients from the Neuro-psychiatric Clinic of the Toronto Western Hospital by permission of Dr. H. K. Detweiler, physician-in-chief, and patients from the Ontario Hospital, New Toronto under the care of Dr. N. L. Easton and the supervision of Dr. T. D. Cumberland. We wish to express our appreciation to Mr. M. Wyand, radio technician of the research unit, for his valuable assistance in

obtaining the electroencephalographic data presented.

#### BIBLIOGRAPHY

1. Proctor, L. D., and Goodwin, J. E. Comparative electroencephalographic observations following electroshock therapy using raw 60 cycle alternating and unidirectional fluctuating current. *Am. J. Psychiat.*, **99**: 4, 1943.
2. Friedman, Emerick, and Wilcox, Paul H. Electrostimulated convulsive doses in intact humans by means of unidirectional currents. *J. Nerv. & Ment. Dis.*, **96**: 56, 1942.
3. Davis, P. A. Technique and evaluation of the electroencephalogram. *J. Neurophysiol.*, **4**: 92, 1941.

## CORRELATION OF THE RESULTS OF SODIUM AMYTAL NARCOSIS AND OF CONVULSIVE SHOCK TREATMENT<sup>1</sup>

ROBERT A. CLARK, M.D.

*Western State Psychiatric Hospital, Pittsburgh, Pa.*

RODNEY H. KIEFER, M.D.

*Behavior Clinic of the Criminal Court of Allegheny County, Pittsburgh, Pa.*

MARTIN J. GERSON, M.D.

*Fairfield State Hospital, Newtown, Conn.*

Sodium cyanide was observed by Loevenhart *et al.*(1), of the University of Wisconsin, in 1918, to arouse a patient from catatonic stupor. Following this, no use was made of this approach until it was revived 12 years later by Bleckwenn(2), who used sodium amytal. Since then, sodium amytal has been employed for several purposes: to determine the mental content of the stuporous patient; to establish rapport in the treatment of the neuroses; and for its prognostic value in shock therapy. This present paper deals with the last use.

In 1939, Harris, Horwitz and Milch(3) published a paper in which they concluded that 30 of 55 schizophrenics treated with insulin, where the patient had previously responded well to sodium amytal, 23, or 77 percent, reacted favorably to treatment; while of 25 cases with a poor response to sodium amytal, 16, or 64 percent, did not respond to treatment. Of 10 patients who were later treated with metrazol, none improved, although 4 had responded to sodium amytal. Also in 1939, W. P. Berrington(4) published a detailed paper on the general subject of pharmacological reactions of schizophrenics. He stated, "The action of sodium amytal may prove useful as a guide to determining whether or not treatment

with cardiazol (metrazol) will prove effective in promoting recovery." Five of 6 patients had lucid intervals following sodium amytal; 2 of them recovered, following metrazol.

In 1941, Gottlieb and Hope(5), of the Iowa Psychopathic Hospital, described 30 schizophrenic patients treated first with sodium amytal, then with either insulin or mecholyl and found a fair correlation between the results of the sodium amytal injection and of treatment. Those with good reactions to sodium amytal made either complete or social recoveries, while 9 of 14, or 65 percent, with a poor reaction remained unimproved. Of 11 with a moderate reaction, 5 recovered, 3 improved, and 3 remained unimproved.

O. E. Pfister(6) reported that in 75 percent of patients treated by him with electroshock a favorable response to sodium amytal corresponded with a favorable result in the treatment.<sup>2</sup>

### MATERIAL

In the present paper 40 cases of psychosis without demonstrable organic pathology which were treated with metrazol, electroshock, or both, will be reviewed. Of these, 23 were patients at the Rhode Island State Hospital, 4 at the Fairfield State Hospital, 3 at the Western State Psychiatric Hospital, and 10 at Woodville State Hospital.

Metrazol alone was given to 32 patients, electroshock alone to 5 patients, and both to 3. In 2 of the last group the method of treatment was changed from metrazol to

<sup>1</sup> Read at the Centenary Meeting of The American Psychiatric Association, Philadelphia, Pa., May 15-18, 1944.

From the Rhode Island State Hospital for Mental Diseases, Howard, Rhode Island; the Fairfield State Hospital, Newtown, Connecticut; the Western State Psychiatric Hospital, Pittsburgh, Pennsylvania; and Woodville State Hospital, Woodville, Pennsylvania. Dr. Gerson is now in the U. S. Army.

<sup>2</sup> See, in addition, the paper of C. B. Wilbur(12).

In addition to the patients treated in the research unit of the Toronto Psychiatric Hospital under the supervision of Dr. C. B. Farrar, the above series includes patients from the Neuro-psychiatric Clinic of the Toronto Western Hospital by permission of Dr. H. K. Detweiler, physician-in-chief, and patients from the Ontario Hospital, New Toronto under the care of Dr. N. L. Easton and the supervision of Dr. T. D. Cumberland. We wish to express our appreciation to Mr. M. Wyand, radio technician of the research unit, for his valuable assistance in

obtaining the electroencephalographic data presented.

#### BIBLIOGRAPHY

1. Proctor, L. D., and Goodwin, J. E. Comparative electroencephalographic observations following electroshock therapy using raw 60 cycle alternating and unidirectional fluctuating current. *Am. J. Psychiat.*, **99**: 4, 1943.
2. Friedman, Emerick, and Wilcox, Paul H. Electrostimulated convulsive doses in intact humans by means of unidirectional currents. *J. Nerv. & Ment. Dis.*, **96**: 56, 1942.
3. Davis, P. A. Technique and evaluation of the electroencephalogram. *J. Neurophysiol.*, **4**: 92, 1941.

## CORRELATION OF THE RESULTS OF SODIUM AMYTAL NARCOSIS AND OF CONVULSIVE SHOCK TREATMENT<sup>1</sup>

ROBERT A. CLARK, M.D.

*Western State Psychiatric Hospital, Pittsburgh, Pa.*

RODNEY H. KIEFER, M.D.

*Behavior Clinic of the Criminal Court of Allegheny County, Pittsburgh, Pa.*

MARTIN J. GERSON, M.D.

*Fairfield State Hospital, Newtown, Conn.*

Sodium cyanide was observed by Loevenhart *et al.* (1), of the University of Wisconsin, in 1918, to arouse a patient from catatonic stupor. Following this, no use was made of this approach until it was revived 12 years later by Bleckwenn (2), who used sodium amytal. Since then, sodium amytal has been employed for several purposes: to determine the mental content of the stuporous patient; to establish rapport in the treatment of the neuroses; and for its prognostic value in shock therapy. This present paper deals with the last use.

In 1939, Harris, Horwitz and Milch (3) published a paper in which they concluded that 30 of 55 schizophrenics treated with insulin, where the patient had previously responded well to sodium amytal, 23, or 77 percent, reacted favorably to treatment; while of 25 cases with a poor response to sodium amytal, 16, or 64 percent, did not respond to treatment. Of 10 patients who were later treated with metrazol, none improved, although 4 had responded to sodium amytal. Also in 1939, W. P. Berrington (4) published a detailed paper on the general subject of pharmacological reactions of schizophrenics. He stated, "The action of sodium amytal may prove useful as a guide to determining whether or not treatment

with cardiazol (metrazol) will prove effective in promoting recovery." Five of 6 patients had lucid intervals following sodium amytal; 2 of them recovered, following metrazol.

In 1941, Gottlieb and Hope (5), of the Iowa Psychopathic Hospital, described 30 schizophrenic patients treated first with sodium amytal, then with either insulin or mecholyl and found a fair correlation between the results of the sodium amytal injection and of treatment. Those with good reactions to sodium amytal made either complete or social recoveries, while 9 of 14, or 65 percent, with a poor reaction remained unimproved. Of 11 with a moderate reaction, 5 recovered, 3 improved, and 3 remained unimproved.

O. E. Pfister (6) reported that in 75 percent of patients treated by him with electroshock a favorable response to sodium amytal corresponded with a favorable result in the treatment.<sup>2</sup>

### MATERIAL

In the present paper 40 cases of psychosis without demonstrable organic pathology which were treated with metrazol, electroshock, or both, will be reviewed. Of these, 23 were patients at the Rhode Island State Hospital, 4 at the Fairfield State Hospital, 3 at the Western State Psychiatric Hospital, and 10 at Woodville State Hospital.

Metrazol alone was given to 32 patients, electroshock alone to 5 patients, and both to 3. In 2 of the last group the method of treatment was changed from metrazol to

<sup>1</sup> Read at the Centenary Meeting of The American Psychiatric Association, Philadelphia, Pa., May 15-18, 1944.

From the Rhode Island State Hospital for Mental Diseases, Howard, Rhode Island; the Fairfield State Hospital, Newtown, Connecticut; the Western State Psychiatric Hospital, Pittsburgh, Pennsylvania; and Woodville State Hospital, Woodville, Pennsylvania. Dr. Gerson is now in the U. S. Army.

<sup>2</sup> See, in addition, the paper of C. B. Wilbur (12).



electro-shock because the patients developed a marked fear of and antagonism toward metrazol, while in the third case, the patient did not respond with a convulsion to 3 successively larger doses of metrazol, and did have convulsions later on with electro-shock.

TABLE 1

## DIAGNOSES

|   |    |
|---|----|
| Dementia præcox, catatonic.....           | 25 |
| Dementia præcox, paranoid.....            | 3  |
| Dementia præcox, hebephrenic.....         | 4  |
| Dementia præcox, mixed and other types... | 3  |
| Dementia præcox, Total.....               | 35 |
| Paranoid condition .....                  | 1  |
| Involuntal melancholia .....              | 1  |
| Manic-depressive, depressed .....         | 3  |
| Total .....                               | 40 |

## METHOD

Each patient received sodium amytal intravenously before the treatment series was started. The patients' conditions were essentially the same at both times so that the reactions to each are comparable. Immediately before the injection, the patients' behavior, mood and productions were noted. A 10 percent solution of sodium amytal was injected slowly, questions being asked at frequent intervals so that any change in the reaction would be quickly remarked. The injection was stopped either when thickness of speech or yawning developed, or when the patient became so alert that it appeared as though a maximum response had been obtained. No patient went to sleep during the injection, though several did when later left undisturbed. No untoward reactions, such as excitement or signs of respiratory or circulatory difficulty, were noted. Dosage varied from  $3\frac{3}{4}$  grains to 9 grains. The latter dose was given to a man 6 feet, 2 inches tall, weighing 200 pounds.

When the injection was stopped, the patient's behavior, mood and content were again noted, in as much detail as his response permitted.

## RESULTS

The results of both the sodium amytal injections and the shock treatments are

given in Table 2. Those responses which were most and least marked (good and poor) are considered more reliable than the intermediate estimates.

In Table 2, of the 15 who showed a good reaction to sodium amytal, 13 recovered or improved greatly following convulsive shock treatment, while 9 of those responding

TABLE 2

## CORRELATION OF RESULTS

| Reaction to sodium amytal | No. | Recovered | Final clinical status |          |            |
|---------------------------|-----|-----------|-----------------------|----------|------------|
|                           |     |           | Much improved         | Improved | Unimproved |
| Good .....                | 15  | 5         | 8                     | 2        | 0          |
| Moderate .....            | 20  | 5         | 4                     | 9        | 2          |
| Poor .....                | 5   | 0         | 0                     | 0        | 5          |
| Totals .....              | 40  | 10        | 12                    | 11       | 7          |

moderately were improved, and all 5 responding poorly were unimproved. Therefore, these 27 are considered to have shown good correlation, while the remaining 13 did not.

A good reaction to sodium amytal was recorded when the patient showed a definite improvement in at least three of the four spheres of behavior, speech, mood and insight. If improvement occurred in only one or two spheres, response was considered moderate, and if in none, poor. Final clinical status was classified in a way similar to that of Gottlieb and Hope so that our results could be compared with theirs. A patient was considered "recovered" when all symptoms had disappeared, he had left the hospital on trial visit and returned to work and his former associations. He was considered "much improved" when all symptoms were gone except a few mild residuals which did not prevent him from returning home and working, or making home visits with prospect of release on trial visit soon. "Improved" patients were those making a better hospital adjustment, in so far as working and privileges were concerned, but with no immediate prospect of release. The "unimproved" patients showed no change whatsoever or else had quickly relapsed from slight improvement occurring directly after treatments, and had resumed their former state.

ILLUSTRATIVE CASES

Case reports of the patients which illustrate the different types of responses and correlations are given below.

*CASE 1.—Catatonic stupor with maximal response to sodium amytal and recovery following metrazol treatments.*

A 21-year-old single male, operator of a gasoline station, who, following difficulties in his business, began to believe that people were making fun of him. This was in May, 1941. He was admitted to the Rhode Island State Hospital for Mental Diseases on September 10, 1941. He was rigid (with moderate waxy flexibility), mute, and was tube-fed twice daily. With the intravenous injection of 5½ grains of sodium amytal he began to smile and laugh appropriately, then conversed readily, telling of his difficulties. He drank his tube-feeding, got up and dressed himself, went downstairs to the cafeteria and ate a large meal ravenously. Following 7 metrazol treatments he was entirely recovered. On November 15, 1941, he was released from the hospital to a steady job comparable with his previous one. Six months later when interviewed he was talkative, active and working steadily.

*CASE 2.—Catatonic stupor responding very well to sodium amytal, with recovery following electroshock.*

A 26-year-old single female clerk with a rigid personality, who, after several months of absent-mindedness, became acutely psychotic March 20, 1942. At first over-talkative and confused, with incoherent speech, she soon lapsed into a stupor. She was admitted to Fairfield State Hospital May 22, 1942. There she was perplexed, suspicious, silly, grinning, with posturing, incontinence of urine and feces, tube-fed, and often mute. After 3½ grains of sodium amytal she became spontaneously over-talkative with well-integrated thought. She calmly spoke of voices accusing her of sex transgressions, and said she was concerned about the effect of food upon her digestion and elimination. The voices also accused her of rape and murder. Following 6 electroshock convulsions she recovered (showing great improvement after only three of them). She showed considerable insight, and was released to her home July 29, 1942. She immediately started to look for work.

*CASE 3.—Catatonic stupor responding moderately to sodium amytal, and improving much following metrazol.*

A 40-year-old single male steel worker with a conscientious, meticulous personality, who came to the United States from Serbia in 1938. On December 29, 1941, he got steel dust in his eyes, fell into a pit, and was unconscious 3 hours. On January 3 he began to believe electricity was going through him and heard voices, and a few days later tried to break a window with a chair. He was admitted to Woodville State Hospital where he was stuporous. On November 2, 1942 he was transferred to the Western State Psychiatric Hospital, and given 7 grains

of sodium amytal intravenously on November 12, 1942. Previously he was mute, flaccid and pre-occupied. While under the influence of the sedative he spoke in a low voice, answered questions relevantly, smiled appropriately, joked once, gave his age, name and time of his accident, but was not oriented and had no insight. After 6 metrazol treatments he improved markedly. A herniotomy was performed 7 weeks later without relapse. The patient left on home visit May 3, 1943 and has been doing light work for his brother since. He appears to have returned to normal except for a complaint of numbness of the right index finger and weakness of the right grip, without signs of neurological disease.

*CASE 4.—Depression in middle age with only slight response to sodium amytal, but unusually rapid recovery with electroshock.*

A 54-year-old married male textile worker with considerable personality rigidity and asthenic habitus became ill in December 1941. He was depressed, retarded, tense, sleeping poorly, and blaming himself. He heard voices over the radio making accusing remarks about his not working. He was admitted to the Rhode Island State Hospital for Mental Diseases on January 28, 1942. In the hospital he was retarded, undertalkative and depressed, thinking he should be in prison. After 5 grains of sodium amytal, he was more talkative, but his voice remained monotonous and his expression depressed. He said he felt better and more cheerful than before the injection. Though he had no insight into the radio-voices, he knew that he did not belong in prison. Electroshock treatments were begun on June 1, 1942, when other methods failed, and following only 2 convulsions he made a complete recovery. On June 24, he was sent home to return to his former job. He was cheerful, sociable, and had good insight.

*CASE 5.—A schizophrenic with good response to sodium amytal who improved very temporarily with metrazol and then relapsed to his former state.*

A 24-year-old separated laborer who drank heavily and whose wife was unfaithful to him developed a psychosis in September 1941. He stopped work, stared ahead of him for hours at a time, was seclusive and impulsive. He was admitted to Rhode Island State Hospital for Mental Diseases February 17, 1942. Before the sodium amytal injection he was angry, suspicious of the injection, and demanding with clenched fists why he was in the hospital. After 7½ grains his tension left him, he laughed and smiled and was friendly and fluent, except when his marital difficulties were brought up, when he was suspicious again. He had some insight into his personality difficulties and his mistake in marriage. With 11 metrazol convulsions (started March 21) he was more fluent, less impulsive and aggressive and more friendly, but still seclusive. He worked better, though reluctantly. He gradually relapsed after completion of the treatments. In September 1942 he was on the continued treatment service, not working, tense and occasionally getting in fights with the other patients.

CASE 6.—*A schizophrenic with response neither to sodium amytal nor to electroshock treatments.*

A 27-year-old single soldier, previously seclusive, stubborn, quick-tempered and alcoholic, had few heterosexual interests and conflict over homosexual experiences. In August 1941 while at an army camp he became suddenly ill, with silly, incongruous, grandiose delusions, believing himself to be General MacArthur and to have invented the Garand rifle. His mood was shallow and inappropriate, his attitude sarcastic and superior, and he heard voices. He was admitted to the Fairfield State Hospital on January 28, 1942. Five grains of sodium amytal intravenously produced no change in his speech, mood or content. After 8 electroshock treatments (begun March 5, 1942) he was worse, becoming surly and impulsively combative, so that he was transferred to a ward for violent patients. In October 1942 he was still there.

#### COMMENT

Of our 40 cases, 27 showed a good correlation between the results of sodium amytal injection and convulsive shock treatment, and 13 poorer correlation. It would therefore appear that this test may be of value in deciding which patients to select for shock treatment of this type as with insulin. When the usual prognostic criteria (such as prepsychotic personality, type of onset, nature of symptoms or duration of illness) are equivocal, then the result of sodium amytal injection may help in the individual instance to tip the scales for treatment. This procedure may be especially useful during wartime, when hospitals are often insufficiently staffed, and when special treatments may have to be limited to the patients most likely to benefit by them. The test in itself is simple, and has in our experience resulted in no untoward reactions.

Since some patients who responded only moderately well to sodium amytal recovered or improved much following treatment, one should not deprive such a patient of possible benefit of treatment. Although none of those who made no response improved in any degree, it would hardly be fair to be too dogmatic with only 5 patients in that group. More such cases need to be tested.

Psychological tests have also been used as means of predicting the outcome of insulin treatment of schizophrenia. The Rorschach test was thus used by Piotrowski(7, 8) at the New York State Psychiatric Institute, and by Halpern(9) at the Bellevue Hos-

pital in New York, the former claiming correct prediction in 90 percent of cases, the latter correct prediction in 14 of 17 cases. Bolles, Rosen and Landis(10), also at the New York State Psychiatric Institute, reported that those patients who did best on three performance tests (the Vigotsky, the Weigl and the BRL sorting test) also improved most with insulin shock. The great disadvantage of these methods is that they require a degree of cooperation which many schizophrenic and depressed patients cannot give. We therefore suggest that the sodium amytal method be applied in those cases unable to cooperate with the psychological tests, the latter being reserved for those who can cooperate. Since psychological tests have been confined to patients about to receive insulin treatment, as far as published reports are concerned, they should also be attempted before convulsive shock treatment. In this connection it is interesting to note that the use of intravenous sodium amytal has been recommended(11) as a means of securing better cooperation for the Rorschach test in psychiatric patients suffering from both psychoses and neuroses. Both methods may consequently be employed on the same patient.

As Gottlieb and Hope indicate, "the close relationship between the type of reaction produced by sodium amytal and the course of the disease may present a method of approach to the elucidation of the pathologic physiology" of schizophrenia. Since convulsive shock has been found useful in manic-depressive psychoses as well as in schizophrenia, the generalization may be extended to them. The reversibility of pathological reaction is shown by a positive reaction to sodium amytal. This may give a clue to the similar reversibility shown by some patients in response to the various forms of shock treatment. We know so little about the mode of action of any of these procedures that no definite statements can be made, but they may serve as leads for further investigation.

#### SUMMARY AND CONCLUSION

A positive correlation was observed between the effects of intravenous sodium amy-

tal and  
40 pa  
out o  
differ  
by t  
clude  
some  
vulsi  
tical  
It is  
be co  
and  
also  
of t  
func

1.  
lation  
clinic  
2.  
in c  
Men  
more  
3.  
E. A  
aid  
patie

tal and of convulsive shock treatment on 40 patients suffering from psychoses without demonstrable organic pathology. The different types of response were illustrated by the case histories of 6 patients. It is concluded that the sodium amytal test is of some value in predicting the outcome of convulsive shock treatment, and may be of practical use in selecting cases for treatment. It is suggested that the use of this test may be combined with the use of the Rorschach and performance tests. This correlation may also serve as a lead for further investigation of the pathologic physiology of so-called functional mental disorders.

#### BIBLIOGRAPHY

1. Loevenhart, A. S., Lorenz, W. F., et al. Stimulation of the respiration by sodium cyanid and its clinical application. *Arch. Int. Med.*, **21**: 109, 1918.
2. Bleckwenn, W. J. The use of sodium amytal in catatonia. *Assoc. for Research in Nerv. and Ment. Dis.*, **10**: 224. Williams and Wilkins, Baltimore, 1931.
3. Harris, M. M., Horwitz, W. A., and Milch, E. A. Regarding sodium amytal as a prognostic aid in insulin and metrazol shock therapy of mental patients. *Am. J. Psychiat.*, **96**: 327, 1939.
4. Berrington, W. J. A psychopharmacological study of schizophrenia. *J. Ment. Sci.*, **85**: 406, 1939.
5. Gottlieb, J. C., and Hope, J. M. Prognostic value of intravenous administration of sodium amytal in cases of schizophrenia. *Arch. Neur. and Psychiat.*, **46**: 86, 1941.
6. Pfister, O. E. *Monatschr. f. Psychiat. u. Neurol.*, **106**: 40, 1942 (cf. *Yearbook of Neur. Psychiat. Endoc.*, 1942).
7. Piotrowski, Z. The prognostic possibilities of the Rorschach method in insulin treatment. *Psychiat. Quart.*, **12**: 679, 1938.
8. Piotrowski, Z. The Rorschach method as a prognostic aid in the insulin treatment of schizophrenics. *Psychiat. Quart.*, **15**: 807, 1941.
9. Halpern, F. Rorschach interpretation of the personality structure of schizophrenics who benefit from insulin therapy. *Psychiat. Quart.*, **14**: 826, 1940.
10. Bolles, M. M., Rosen, G. P., and Landis, Carney. Psychological performance tests as prognostic agents for the efficacy of insulin therapy in schizophrenics. *Psychiat. Quart.*, **12**: 733, 1938.
11. Kelley, D., Levine, K., Pemberton, W., Lillian, K. Intravenous sodium amytal as an aid to the Rorschach method. *Psychiat. Quart.*, **15**: 68, 1941.
12. Wilbur, C. B. The use of intravenous barbiturates in determining the prognosis in metrazol therapy. *Dis. Nerv. Sys.*, **4**: 372, 1943.



# THE CONDITIONED AVERSION TREATMENT IN CHRONIC ALCOHOLISM<sup>1</sup>

(PRELIMINARY REPORT OF 100 CASES)

J. V. EDLIN, M.D., R. H. JOHNSON, M.D., P. HLETKO, M.D., AND  
G. HEILBRUNN, M.D.

Due to its known gravity and prevalence, the syndrome of chronic alcoholism does not invite an aphoristic restatement. Statistical data seeking to determine its exact frequency among the population will always necessarily underrate the true index since such statistical evaluations are derived from court records, welfare agencies, private organizations or private sanatoria and cannot therefore comprehend those cases among the population who have not come before public attention.

The proportion of "alcoholic psychoses" to total admissions to mental hospitals has generally been regarded as ranging from 10 to 15 percent(1). According to Dayton(2), chronic alcoholism appeared as a prominent etiological factor in one-fifth of all admissions to mental hospitals in Massachusetts. Chapin and McGaughey(3) found 24,000 patients suffering from chronic alcoholism out of 130,000 admissions to the Cook County Psychopathic Hospital between 1917 and 1942. These figures, however, represent only that group of patients in whom the syndrome became so pronounced that it finally precipitated a serious conflict with the social order or affected the health of the individual. The actual number of addicts can only be estimated.

Treatment methods have, in general, pursued two goals: first, the management of the withdrawal period and the immediate restoration of the patient's well-being by physical methods and by pharmacological means, including the administration of hydrotherapy, vitamins, amphetamine sulfate, insulin hypoglycemia, sub-convulsive Faradic shock, and various other agents; second, the inculcation of permanent sobriety by utilizing individual or group psychotherapy, occupational and recreational activities and phar-

macological media. The achievement of the first goal is usually attained. The actual problem, however, arises after the acute withdrawal symptoms have subsided. The practice of individual psychotherapy, however desirable, finds two almost insurmountable obstacles; first, within the confines of the state hospital the high inverse ratio of physicians to patients inevitably precludes attention to more than an insignificant fraction of the total of alcoholic patients; furthermore, the psychotherapeutic procedure requires that the patient be hospitalized for a protracted period—ordinarily wholly incompatible with the patient's economic situation; second, the stabilizing results issuing from ambulatory psychotherapeutic efforts privately practiced are but slowly asserted, and all too often a patient exhibits the chronic nature of his addiction, rendering the psychotherapeutic procedure practically impossible.

Group psychotherapy as practiced by lay organizations such as the Alcoholics Anonymous has proven its merit, according to Thompson(5), in a large percentage of cases. Tiebout(6), in a recent article, reports: "Alcoholics Anonymous claim a recovery rate of 75 percent of those who really try their methods. This figure, coupled with their mushroom growth, commands respect and demands explanation." Among the various pharmacological agents, insulin hypoglycemia, amphetamine sulfate, vitamins, failed to produce ameliorative results. The use of amphetamine sulfate, recommended for aborting the alcoholic cycle, proved to be advantageous only as an adjuvant to other treatment methods, according to Bloomberg(7), and Rosenbaum and Lams(8), and Miller(9).

Other reliable means of therapy were continually sought and the new approach through establishing an aversion against

<sup>1</sup> From The Chicago State Hospital, Chicago, Ill., and The University of Illinois, College of Medicine, Department of Psychiatry.

alcoholic beverages was therefore deemed worthy of a thorough trial. This treatment had found its first systematic application in private sanatoria, and it is unfortunate that reports on its efficacy are so decidedly scant. Of 1194 patients treated by the conditioned reflex treatment at the Shadel Sanitarium in Seattle(10), follow-up reports revealed that abstinence was maintained in 75 percent of 644 patients observed for a two year period and 52 percent of a group observed for a period of four years. King(11), employing the same treatment, dealt with 8 patients of whom 5 were considered successfully conditioned—all of these patients relapsed, however, after a three to ten month period.

The treatment consists essentially in establishing a reflex aversion to the sight, smell, taste and thought of alcoholic beverages by means of an emetic. Emesis of alcoholic beverages which are urged on the patient for thirty to sixty minutes is produced after the single administration of an emetic. Twenty-five to 40 minims of fluid extract of ipecacuanha are added to the initial drink of an ounce of whiskey, followed by an average glass of water. After an interval of ten to fifteen minutes, an ounce of whiskey followed by water is again administered. This procedure is repeated every two to three minutes until emesis occurs—the latter usually begins from ten to twenty minutes after the first drink has been consumed. Immediately thereafter the identical routine is followed, omitting only ipecacuanha medication, until emesis is once more established. Three to four such paroxysms are observed in the first session. One session usually requires forty-five to sixty minutes. A second session, depending upon the patient's physical condition, is either held on the same or the following day, provoking an increasing number of paroxysms with each session. The treatment is discontinued when an aversion against alcoholic beverages is firmly established, usually after the fifth to eighth session. The first indication of aversion is manifested when the patient utters derogatory remarks about the alcoholic beverages—an interjection invariably accompanied by grimaces of repugnance and requests for discontinuation of therapy. As the treatment is continued, the patient shows other signs of

deepening aversion by an antipathetic turning of his head when the drink is poured, hesitation before drinking, gagging and marked reluctance to pick up the drink. Many times the patient will reach for the glass, falteringly attempt to elevate it to his lips and then return it to the table without drinking. When the aversion is complete, the patient is unable to retain the drink for more than two or three minutes.

Since the large majority of alcoholics are addicted to whiskey, a preference is assigned to establishing an aversion to that type of beverage. In each instance, however, an aversion is also established to wine and beer. Stress is placed on that type of beverage to which the patient is addicted. For example, every third or fourth drink will be wine or beer, the other drinks will be whiskey; if the patient is addicted to wine, then every third or fourth drink will be whiskey or beer and the other drinks, wine. This plan follows through for any other type of alcoholic addiction. This multiple aversion is imperative since the danger is always at hand that the patient may revert to some type of liquor which differs in taste. He may, for instance, divert from whiskey to kummel or to some type of flavored brandy.

Complications encountered were difficulty in vomiting—the latter then requiring induction by physical means; gastric bleeding; diarrhea which was of short duration and which could be successfully counteracted by the administration of charcoal or cocoa powder in water.

As we have no positive means of determining how long the aversion will endure, and in order to assure maintenance of the aversion, it has been deemed advisable to reinforce the reflex by having the patient return for a treatment session at intervals of one to three months. The use of this reinforcement treatment appears to have greatly enhanced the value of therapy.

One hundred patients (80 men and 20 women), with an average age of 38, and an average period of alcoholic addiction of twelve and one-half years, were treated. Of the hundred patients, 9 were treated outside the hospital as private patients. This latter group will be discussed separately from the large group treated in the hospital. The

great majority of these institutional patients had entered the hospital for the express purpose of securing this therapy. The average stay at the hospital was two and one-half weeks. The treatment was not administered when a patient was in a state of acute intoxication, had marked hypertension or severe cardiac disease, or where a history of a recent gastric ulcer was disclosed. Moderate cardiac disease did not appear to be a contraindication.

### RESULTS

The separation of the privately treated patients from the group treated at the hospital is explained in the statistical evaluation of the resulting percentages. Five of the 9 private patients, or 55 percent, have abstained from three to fifteen months; 4 relapsed within one month after treatment; 3 of the 5 had reinforcement. Although the number of private patients offers but a narrow statistical base, a sharp contrast in beneficial results is observed in comparison with the group treated at the hospital. Of that group of 91 patients, 9 left the hospital within the past ninety days, and therefore should not be included in a statistical summary. The remaining 82 patients were treated between April, 1943 and February, 1944. Twelve patients, or 15 percent, are known to have remained abstinent for five to fifteen months. Follow-up information is unavailable on 21 patients. Nineteen patients relapsed immediately after the treatment; 30 relapsed within three to eight months. This residual figure of 15 percent who did not revert contrasts notably both with the 55 percent of favorable results in the group privately treated, and the 75 percent reported by Lemere and co-workers(10).

The detection of the principal source of discrepancy in results obtained in our institutional and private groups on the one hand and the groups treated in private hospitals furnishes a valuable suggestion for the continued utilization of this therapy.

The patient's sociological situation, as the probable reflection of his emotional and psychological status, presented itself as an outstanding factor. A survey of the records of our hospital patients disclosed the presence of rather inferior social and financial situations. Many patients had been without

gainful occupation for a long period or had worked only at irregular intervals. In a high percentage of cases one observed disrupted homes, marital maladjustment, inadequate personalities, etc. It is certainly not adventitious that Thimann(12), who treated 37 patients in private hospitals in Boston by this method observed 5 of 7 failures "to be social agency patients who did not pay for their treatment." Lemere and associates(10), examining the sociologic status of their patients in whom the treatment was found to be so successful, discovered that there was a selective element in the patients treated in the Seattle hospital. Most of these patients were "businessmen or defense workers, responsible individuals. When cured they returned to normal life." In corroboration of these statements, we found that all patients of our privately treated group and most of those successfully treated at the hospital fell within that category. It becomes evident, therefore, that on an average basis, a patient's superior sociologic and financial status, with all its sociodynamic implications, is an auspicious prognostic factor in this treatment.

We concur with the consensus of opinion that every alcoholic basically suffers from a personality disorder and that the alcoholic debauch represents an escape from conflict. It is logical to assume, therefore, that the alcoholic patient, deprived of that escape mechanism by the aversion treatment, must feel his or her conflict more strongly than ever. For this reason the aversion treatment cannot be properly considered as a basic treatment of alcoholism. Its beneficial role resides merely in the abrupt suspension of the alcoholic cycle, when the patient should be introduced to the application of individual or group psychotherapy. Therefore a percentage of 52, representing patients who had remained sober for at least three months, may be much more valuable as an index of the over-all therapeutic effect than the percentage of patients remaining abstinent for a longer period of time. The patients were for this reason urged to participate in the meetings of the Alcoholics Anonymous which have proven effective group psychotherapy. Approximately a like percentage of successfully and unsuccessfully treated patients followed

the p  
Anon  
not h  
patie  
who  
to th  
for r  
Rein  
tered  
and  
pital  
to th  
surm  
min  
dete  
It  
trea  
in a  
tere  
dev

S  
trea  
15  
hav  
to  
55  
lect  
soc  
lea  
52  
sio

the physician's advice to join the Alcoholics Anonymous. It is regrettable that we do not have accurate attendance records of these patients and we can only conclude that those who had failed to show a successful response to the aversion therapy had a poor prospect for recovery through any form of treatment. Reinforcement treatment could be administered in only 4 of the privately treated group and in only 3 patients of the recovered hospital group. The remainder did not return to the hospital for that purpose, and it may be surmised that the oft-heard complaint on mingling with psychotic patients played a deterrent role.

It is believed, therefore, that a higher treatment efficiency rate can be achieved even in an unselected group of patients if administered at a hospital or out-patient clinic solely devoted to the treatment of alcoholics.

#### CONCLUSIONS

Since the introduction of the aversion treatment fifteen months ago at this hospital, 15 percent of an unselected group of patients have remained abstinent for a period of five to fifteen months. An abstinence rate of 55 percent, however, was obtained in a selected group of patients with a commendable sociological background. A period of at least three months sobriety was obtained in 52 percent of all patients treated. The aversion treatment is regarded not as a therapy

in itself but merely as a valuable method to interrupt the alcoholic cycle for a conjectural period of time, which should be utilized for intensive psychotherapy.

#### BIBLIOGRAPHY

1. Henderson, D. K., and Gillespie, R. D. A text-book of psychiatry. New York, Oxford University Press, 1940.
2. Dayton, N. A. New facts on mental disorders. Charles C. Thomas, Springfield, 1940.
3. Chapin, J. M., and McGaughey, Wm. M. Chronic alcoholism at the Cook County Hospital. *Arch. Neur. and Psychiat.*, **47**: 169, 1942.
4. Miller, M. M. Ambulatory treatment of Chronic alcoholism. *J. A. M. A.* **120**: 271, 1942.
5. Thompson, W. A. The treatment of chronic alcoholism. *Am. J. Psychiat.*, **98**: 846, 1942.
6. Tiebout, H. M. Therapeutic mechanisms of Alcoholics Anonymous. *Am. J. Psychiat.* **100**: 468; 1944.
7. Bloomberg, W. Results in the use of amphetamine (benzedrine sulphate) as an adjuvant in the treatment of chronic alcoholism. *Am. J. Psychiat.*, **98**: 562, 1942.
8. Rosenbaum, M., and Lams, L. The use of amphetamine (benzedrine sulphate) in the treatment of chronic alcoholism. *Am. J. Psychiat.* **98**: 680, 1942.
9. Miller, M. M. Amphetamine sulfate in aborting the acute alcoholic cycle. *Am. J. Psychiat.*, **100**: 800, 1944.
10. Lemere, F., Voegtlin, W. L., Broz, W. R., O'Hollaren, P., and Tupper, W. E. The conditioned reflex treatment of chronic alcoholism. *J. A. M. A.*, **120**: 269, 1942.
11. King, J. P. (See discussion of Lemere and Others.)
12. Thimann, J. (See discussion of Lemere and Others.)



## PSYCHOTIC PROFILES AND SEX PROFILES SHOWN BY A TEST BATTERY

L. S. PENROSE, M.D.

*Ontario Hospital, London, Canada*

Attention was drawn to the differences in scoring level obtained by normal and psychotic subjects on a battery of 12 subtests by Myers and Penrose (1941). The results, then obtained, confirmed the observations of other workers, summarized by Brody (1944), to the effect that psychotic subjects tend to score very poorly in tests which require reasoning or constructive thought such as completion of pictures or detection of absurdities. The ability to perform tests which involve memory or routine mental activity, such as vocabulary knowledge, is relatively unimpaired in psychosis.

The present paper gives the results of subsequent work with a battery consisting of 8 of the original 12 subtests. This battery is exactly the same as that used by the Canadian Army as a routine intelligence test in the manner described by Griffin, McKerracher and Lawson (1943) and is termed General Examination M, Form A. Comparison of the scores of known cases of psychosis with norms, based upon army samples, confirmed the results obtained previously with the battery of 12 tests. The mean scores of 90 male psychotic hospital patients, who were ineligible for or had been rejected from the Army, showed a marked "profile" when compared with the means for a fairly representative sample of 9,000 army males.

"Profile," here is defined as the set of deviations of scores or mean scores (expressed in standard units) of any subject or group of subjects as compared with any other subject or group of subjects: it expresses a relationship between any two sets of subtest scores. In the most usual type of psychological problem, involving profiles, one of the sets of scores is a fixed standard obtained from the normal population, comparison with which enables abnormal score patterns to be detected. This is how the normal and psychotic male groups were treated in the present instance. It is, however, logi-

cal always to regard a profile as the relation between two sets of scores and this conception enables numerous types of profiles to be examined and compared with one another.

For the purpose of describing profiles as accurately as possible, standard scale values were calculated, from the frequency distribution of the 9,000 male scores, for every possible score on each subtest by a method (Penrose, 1942)(a), which reduced the subtest distributions, even when skewed, to normal scales with zero means and unit standard deviations. These normal scale values had the advantage of being additive—unlike centiles, for example—and they thus gave correct average scores even at the upper and lower extremes of ability. The mean standard scores of 100 male psychotics are shown in Table I, column (ii). It is evident that, although the means of the psychotic scores are all below the normal male level (which is zero on the standard scale), failure on subtests Nos. 1, 2 and 3, which demand constructive thought, is especially marked. These abnormal subjects were comparatively successful on the vocabulary test, No. 7, where their mean score lies very close to the normal level, from which it differs only by 0.04 sigma.

The study of the psychotic profile was also carried out with female subjects and the results led to the appreciation of marked differences in subtest ability in the two sexes, both for normals and psychotics. As shown in column (iii) of Table I, 50 normal female subjects were notably weak on subtests Nos. 4 and 5 and the result might have been guessed from the knowledge of the mechanical bias of the material presented in these two subtests. Females were also comparatively weak on subtests Nos. 1 and 2. Relatively good scores were obtained by them in subtests Nos. 3 and 6 and high scores in vocabulary and verbal analogies, Nos. 7 and 8. The same general type of profile was discovered when 42 female psy-

chotic patients were compared with the 100 male psychotic patients. In fact, the two profiles of psychosis and femininity, when added together, form a new profile, which approximates closely to that actually obtained for female psychotic patients, as compared with the normal male standard. The observed psychotic females' scores, shown in column (iv) of Table I, however, were slightly lower than those predicted from this calculation and given in column (v). Curiously enough, there is hardly any hint, here, of a reversal of profile or intersexual tendency on the part of the psychotic females, which might have been thought probable from consideration of the results obtained by Bosselman and Skorodin (1940) after applying Terman and Miles' masculinity-femininity inventory to mentally ill cases. Actually, here, the profile of sex is preserved in psychotics without any noticeable alteration. This is seen clearly by comparing columns (xi) and (xii) in Table III; the likeness of the sex profiles, for psychotic and normal subjects respectively, can be measured by the correlation coefficient, whose value,  $+0.945$ , is highly significant even though it is based only upon 8 tests.

The two general profiles, psychosis and femininity, show a certain superficial resemblance to one another, mainly on account of the agreement with respect to low scores on subtests Nos. 1 and 2 and high scores on subtest No. 7. In terms of correlation, the likeness between columns (ii) and (iii) in Table I is positive, *e. g.*,  $+0.41$ , but insignificant. Further investigation revealed that the psychotic subjects diagnosed schizophrenic were mainly responsible for this effect. The mean scores of male subjects with affective reactions, manic, depressive and involutional psychoses did not, on the average, show any appreciable tendency to assume the feminine type of profile. The mean scores in the two main psychiatric groups for both male and female subjects are shown in Table II.

In comparison with schizophrenics of the same sex, patients with affective reaction showed a masculine tendency. Indeed, there appeared to be a marked kinship between the profile of schizophrenics, as compared with affective cases, which may be termed the "reaction type" profile, and the profile

of females, as compared with males. The parallel profiles for psychotic reaction type and sex in the patients tested are given in Table III, columns (x) and (xi) respectively. Both profiles are weak on four subtests, Nos. 1, 2, 4 and 5, and strong on the other four. Comparison of the two profiles is facilitated by subtracting the mean scoring level from each profile, as shown in the lower half (B), of Table III. The correlation coefficient for this pair of profiles (reaction type ad sex) was  $+0.77$ , a value only likely to be reached by chance in fewer than once in 50 random samples. The profile for psychotic reaction type, column

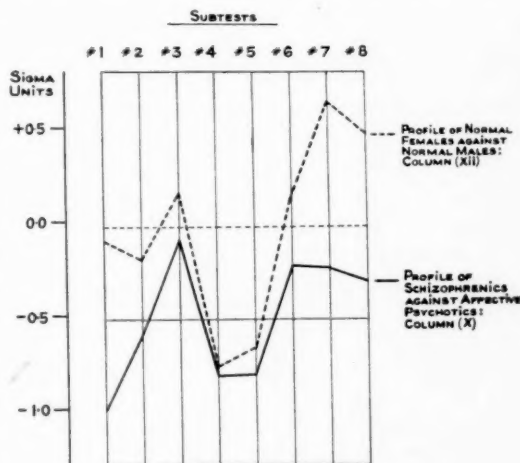


FIG. 1.—Profiles of reaction type and sex.

(x), can also be compared with the profile for sex in normals, column (xii), and the result is similar,  $r = +0.79$ , (see Fig. 1).

The likeness of the two profiles of psychotic reaction type and sex, may perhaps be interpreted as an indication of a fundamental affinity between the schizophrenic reaction and femininity and a corresponding affinity between the affective reaction type and masculinity. Schizophrenia is commoner in males and affective psychosis commoner in females; consequently, in a sample of patients of both sexes, selected for testing in a mental hospital population, the majority of males might be schizophrenic and show feminine profiles and the majority of female patients might be affective and show somewhat masculine profiles as compared with normal females. In this way, the sex-

TABLE I  
COMPARATIVE SUBTEST PERFORMANCE IN DIFFERENT GROUPS OF SUBJECTS

| Subtest                            | Column<br>(i)              | Column<br>(ii)             | Column<br>(iii)           | Column<br>(iv)               | Column<br>(v)   |
|------------------------------------|----------------------------|----------------------------|---------------------------|------------------------------|---|
|                                    | Normal<br>males<br>(9,000) | Psychotic<br>males<br>(90) | Normal<br>females<br>(50) | Psychotic<br>females<br>(42) | Expectation for<br>column (iv),<br>i. e., sum of<br>columns (ii)<br>and (iii) |
|                                    | Mean standard scores       |                            |                           |                              |   |
| No. 1. Picture completion.....     | 0.00                       | -1.14                      | -0.20                     | -1.41                        | -1.34   |
| No. 2. Pictorial absurdities ..... | 0.00                       | -0.92                      | -0.26                     | -1.40                        | -1.18   |
| No. 3. Figure construction .....   | 0.00                       | -0.87                      | +0.15                     | -0.80                        | -0.72   |
| No. 4. Tool recognition .....      | 0.00                       | -0.59                      | -0.78                     | -1.25                        | -1.37   |
| No. 5. Mechanical information ..   | 0.00                       | -0.58                      | -0.68                     | -1.29                        | -1.26   |
| No. 6. Arithmetic .....            | 0.00                       | -0.41                      | +0.15                     | -0.62                        | -0.26   |
| No. 7. Vocabulary .....            | 0.00                       | -0.04                      | +0.64                     | +0.11                        | +0.60   |
| No. 8. Verbal analogies .....      | 0.00                       | -0.59                      | +0.48                     | -0.63                        | -0.11   |
| Mean .....                         | 0.00                       | -0.64                      | -0.06                     | -0.91                        | -0.70   |

TABLE II  
SUBTEST PERFORMANCE OF PSYCHOTIC SUBJECTS

| Subtest   | Column<br>(vi)          | Column<br>(vii)                  | Column<br>(viii)             | Column<br>(ix)                        |
|-----------|-------------------------|----------------------------------|------------------------------|---------------------------------------|
|           | Affective<br>males (35) | Schizo-<br>phrenic<br>males (55) | Affective<br>females<br>(17) | Schizo-<br>phrenic<br>females<br>(25) |
|           | Mean standard scores    |                                  |                              |                                       |
| No. 1. .. | -0.66                   | -1.44                            | -1.30                        | -1.53                                 |
| No. 2. .. | -0.50                   | -1.18                            | -1.44                        | -1.37                                 |
| No. 3. .. | -0.76                   | -0.94                            | -0.79                        | -0.80                                 |
| No. 4. .. | -0.21                   | -0.83                            | -1.12                        | -1.33                                 |
| No. 5. .. | -0.22                   | -0.81                            | -1.15                        | -1.38                                 |
| No. 6. .. | -0.15                   | -0.56                            | -0.74                        | -0.55                                 |
| No. 7. .. | +0.11                   | -0.13                            | +0.11                        | +0.11                                 |
| No. 8. .. | -0.31                   | -0.77                            | -0.70                        | -0.58                                 |
| Mean .    | -0.34                   | -0.83                            | -0.89                        | -0.93                                 |

reversal effects shown in some surveys can be accounted for. During the present investigation, however, care was taken to obtain fairly evenly balanced groups of patients with nearly equal proportions of affective males and affective females.

The striking degree of correspondence, found between the schizophrenic-affective and female-male profiles, is shown almost equally in the two sexes. The correlation for reaction type profile in males and the sex profile in normals was +0.68 and that for the reaction type profile in females and the same normal sex profile was +0.67. One hypothesis, which naturally suggests itself to account for these findings, assumes that quantitative deviations from sex polarity are quite common in man (Penrose, 1942) (b) and that these deviations account for

personality differences, which are reflected in the reaction type, if the subject has the misfortune to develop a psychosis. A tendency towards increased femininity, in either sex, predisposes to the schizophrenic reaction and a tendency towards masculinity correspondingly predisposes the subject to an affective reaction in circumstances otherwise similar. The more marked severity (shown by its earlier onset and greater frequency) of the schizophrenic reaction in males than in females may be an expression of the greater danger to the individual of an intersexual than a supersexual deviation. Conversely, in the female, affective reaction, which may be an expression of intersexuality, has earlier onset and is more frequent than in the male. The amplitude of the profile which differentiates subjects with affective reaction from those with schizophrenia is much narrower than that of the profile which distinguishes males from females (as shown in Table III, columns (x) and (xi)). Hence the quantitative sex deviations, which may be supposed to account for differences of reaction type within the sexes are much smaller in magnitude than the difference in quantity which determines the sex of the individual.

#### SUMMARY

The results of exposing normal and psychotic male and female subjects to the same battery of subtests have been compared. The psychotic subjects were then divided into affective and schizophrenic reaction type groups. The peculiarities which distin-

TABLE III  
COMPARISON OF PROFILES FOR REACTION TYPE AND SEX

| Subtest     | Column (x)<br>Schizophrenic-<br>affective profile<br>(vii)+(ix)-(vi)-(viii) | Column (xi)<br>Female-male<br>profile (in psychotics)<br>(viii)+(ix)-(vi)-(vii) | Column (xii)<br>Female-male<br>(in normals)<br>(iii)-(i) |
|-------------|---|---|--|
|             | (A) Mean standard scores  |   |  |
| No. 1. .... | -1.01   | -0.73   | -0.20  |
| No. 2. .... | -0.61   | -1.13   | -0.26  |
| No. 3. .... | -0.19   | +0.11   | +0.15  |
| No. 4. .... | -0.83   | -1.41   | -0.78  |
| No. 5. .... | -0.82   | -1.50   | -0.68  |
| No. 6. .... | -0.22   | -0.58   | +0.15  |
| No. 7. .... | -0.24   | +0.24   | +0.64  |
| No. 8. .... | -0.34   | +0.20   | +0.48  |
| Mean .....  | -0.53   | -0.60   | -0.06  |
| Subtest     | (B) Mean standard scores with mean scoring level subtracted                 |   |  |
|             |   |   |  |
| No. 1. .... | -0.48   | -0.13   | -0.14  |
| No. 2. .... | -0.08   | -0.53   | -0.20  |
| No. 3. .... | +0.34   | +0.71   | +0.21  |
| No. 4. .... | -0.30   | -0.81   | -0.72  |
| No. 5. .... | -0.29   | -0.90   | -0.62  |
| No. 6. .... | +0.31   | +0.02   | +0.21  |
| No. 7. .... | +0.29   | +0.84   | +0.70  |
| No. 8. .... | +0.21   | +0.80   | +0.54  |
| Mean .....  | 0.00  | 0.00  | 0.00   |

guished between the test performances of these two reaction types, as judged by analysis of profile, showed a marked similarity to peculiarities, which were found to distinguish males from females. A theoretical explanation of this similarity is discussed.

The work which has been summarized in the present communication was a by-product of investigations made by the writer on behalf of the Canadian Psychological Association. I would like to express by indebtedness to Col. W. Line, Lt.-Col. N. W. Morton, Major G. A. Ferguson and Major

J. A. Gagnon whose help made the investigation possible.

#### BIBLIOGRAPHY

- Penrose, L. S., and Myers, C. R. *Am. J. Psychiat.*, **98**: 238, Sept. 1941.  
 Penrose, L. S. (a). *Bull. Canad. Psych. Ass.*, **2**: 1.  
 Brody, M. B. *J. Ment. Sci.*, **90**: 127.  
 Bosselman, B., and Skorodin, B. *Am. J. Psychiat.*, **97**: 699, Nov. 1940.  
 Penrose, L. S. (b). *J. Ment. Sci.*, **88**: 308, April 1942.  
 Griffin, J. D. M., McKerracher, D. G., and Lawson, F. S. *Am. J. Psychiat.*, **100**: 137, July 1943.



## FREUDIANISM AND THE PSYCHOANALYTIC TRADITION<sup>1</sup>

JOSEPH WORTIS, M.D., NEW YORK, N. Y.

At the turn of the century when psychoanalysis emerged as a distinctive scientific movement it represented, on the whole, an important advance. Its positive contributions in that period—nearly half a century ago—were the following:

1. Psychoanalysis emphasized the individual and his personal history at a time when psychiatry was much too interested in merely labelling and classifying psychological disorders.

2. It introduced a dynamic point of view—that is, a picture of personality as a moving development, instead of the prevailing tendency to regard personality as something fixed and static.

3. It presented a dialectical picture of personality, as composed of many opposing tendencies—not a unified undifferentiated mass of single tendencies.

4. It helped develop the new science of mental function—psychology—at a time when psychiatry was dominated by the mechanical materialism of the pathological anatomists, or the experimental laboratory interests of the early psychologists.

5. It strengthened scientific materialism at a time when religious idealism was influencing certain schools of psychiatry.

6. It was responsible for an emphasis on therapeutic optimism instead of the fatalism or nihilism then prevailing.

7. It helped shatter the taboos against an examination of sexuality and the family.

8. It made a penetrating and subtle analysis of many psychological mechanisms that had been previously neglected or unknown; repression, projection, sublimation, regression, transference, reaction formation, etc.

9. It presented a realistic picture of many sordid aspects of the contemporary personality and family.

10. It accumulated a vast wealth of observational data on human personality.

Freudianism however did not escape the influence of its social and historical origins and had certain basic defects from the very beginning, which at first impeded its development and later lead the psychoanalytic movement into theoretical formulations and attitudes which cannot be regarded as valid or useful.

The development of Freudian psychology has however coincided with the emergence of an important psychoanalytic movement, with institutes for training an accredited membership, with publishing facilities and periodicals, and with a large lay following. There can be little doubt that Freudianism has a very widespread influence today. Certain Freudian attitudes are common even in circles that regard themselves as anti-Freudian, as well as in circles that have never heard of Freud. This is partly due to the fact that Freudianism embodies many attitudes that can claim an existence quite independent of Freudianism, and partly to that fact that Freudian influences have spread in many subtle ways far beyond the circle of its formal adherents. Freudians occupy many important official positions, and in addition many influential people have themselves undergone psychoanalysis. Large sections of the social work field have been deeply influenced by psychoanalytic theories, and our child guidance centers, juvenile courts, and criminal courts are also exposed to Freudian influence. In recent years psychoanalysts have been given prominent posts in military circles and have been assigned key positions in rehabilitation centers and as consultants in the U. S. Employment Service. Novelists, critics, sociologists and philosophers frequently give expression to the psychoanalytic point of view. Up to recent years the international psychoanalytic movement, in spite of several important schisms, represented a relatively compact and energetic group with centers throughout the world. The more serious dissensions and

<sup>1</sup> The author assumes full responsibility for the views here expressed, but these views are in many respects a joint product of group discussion. Thanks are due to a number of colleagues, whose discussions and suggestions are incorporated in this paper.

divisions which have lately disturbed the movement are symptomatic of a rising discontent with certain basic Freudian principles, but it cannot be said that any satisfactory alternative body of scientific opinion has yet been developed to replace it.

What are the basic ideas of Freudianism? In what way are they true or false, and what are the practical effects of these ideas? The basic ideas of Freudianism are the following:

1. *A belief in the preponderant influence of the unconscious.* Freud believed that the behavior of people, in general, is not motivated by a correct and realistic appraisal of an actual situation, but essentially by innate instinctive drives, modified by early experience (in the first years of life) and only slightly influenced by later experiences. So far as any particular situation is concerned the behavior of people must be regarded as irrelevant and irrational. According to one prominent psychoanalyst, Erich Fromm, for example, the German people when threatened with Fascism identified their Fascist leaders with their fathers and yielded to them.

... Many of the adherents of the leftist parties, although they believed in their party programs as long as the parties had authority, were ready to resign when the hour of crisis arrived. A close analysis of the character structure of German workers can show one reason—certainly not the only one—for this phenomenon. A great number of them were of a personality type that has many of the traits of what we have described as the authoritarian character. They had a deepseated respect and longing for established authority. (Escape from Freedom, pp. 80-81.)

For adults the Freudians believe in the ascendancy of outworn unconscious ideas over actual situations. For children they believe in the ascendancy of instinctive drives over actual situations. In both cases the Freudians assume an ascendancy of ideas over the realities of a situation. Many people nowadays have come to see that it is not primarily the ideas of men that determine their way of life but, on the contrary, the mode of their existence that determines their ideas. Freudianism believes in exactly the opposite relationship. In a typical passage Freud declares,

It is quite impossible to understand how psychological factors can be overlooked where the reac-

tions of living human beings are involved; for not only were such factors already concerned in the establishment of these economic conditions, but, even in obeying these conditions, men can do no more than set their original instinctual impulses in motion—their self-preservative instinct, their love of aggression, their need for love, and their impulse to attain pleasure and avoid pain. . . . For sociology, which deals with the behavior of man in society, can be nothing other than applied psychology. (New Introductory Lectures, p. 244.)

Thus Freud not only neglected the social situation as a motive for behavior, but stood everything on its head by regarding social situations as the expression of people's ideas or unconscious strivings. From this point of view war, for example, is the expression of aggressive instincts, and social feeling the expression of latent sexual feeling.

2. As a result of Freud's conviction that outworn, unconscious ideas dominate action, *his scientific method for understanding human behavior is essentially antiquarian and biological.* That is, he is much preoccupied with unravelling an individual's past, and in evaluating the strength and interplay of his instinctive biological drives. This antiquarian and biological interest is fostered—as we have just seen—at the expense of sociological interest. In actual treatment of an individual case this means intensive biographical investigation and personality probing and dissection with only cursory attention to the problems of conduct and practical life. As a result of this concern with the past and with the world of ideas psychoanalysis has become too descriptive and abstract: a great deal of space and attention is devoted in its literature to descriptions—often very acute and subtle—of the devious complex ways in which ideas become interrelated or changed by their impact on each other. Much of the fascination of psychoanalysis lies in this skillful pursuit and capture of changing or developing ideas, a pursuit which too often loses its relation to the hard facts of life, and affords a kind of relief to the patient which is not basic and therefore not sustained.

3. Freudianism, which arose as a progressive influence at a time when psychiatry was dominated by the mechanical material interests of the pathological anatomists, *has almost completely lost interest in the material physiological basis of mental func-*

tion, and has gone over to the other great extreme of depicting all nervous disorders as psychological problems, and even in regarding many organic diseases as mainly psychological disorders. The current interest in "psychosomatic" medicine is dominated by this Freudian point of view. It is true that the psychological level of integration has its own independent laws, and justifies a separate scientific discipline, but the psychological level stands in constant and intimate inter-relationship to both physiology and sociology, with influences moving back and forth between all levels.

4. Freudianism has a social orientation that is much too narrow. Though it sometimes disclaims any interest in morals or ethics, it has an implicit acceptance of most contemporary middle-class standards. This is revealed in its attitude toward women, in its notion of what is normal, in its standards of success and failure, in its attitude toward social progress, and in its fundamental pessimism.

In relation to the social advance toward a better life it can therefore be said that the psychoanalytic tradition is characterized by certain evasive or reactionary tendencies. It is fascinated by the past at the expense of the present, and imputes excessive—at times almost magical—powers to the force of analytic insight, at the expense of action.<sup>2</sup> Although the whole range of

<sup>2</sup> The following quotation from the writings of Karen Horney is illustrative:

"Sometimes the mere uncovering of a neurotic trend is sufficient to cure a neurotic upset. A capable executive, for instance, was deeply disturbed because the attitude of his employees, which had always been one of devotion, changed for reasons outside his control. Instead of settling differences in an amicable way, they started to make belligerent and unreasonable demands. Although he was a highly resourceful person in most matters he felt utterly incapable of coping with this new situation, and reached such a measure of resentment and despair that he considered withdrawing from the business. In this instance the mere uncovering of his deep need for the devotion of people dependent on him sufficed to remedy the situation." (Self-Analysis, p. 90.) Horney goes on to explain (p. 93): "While a person is working at the implications of the neurotic trend his illusions, fears, vulnerabilities, and inhibitions are gradually loosened from their entrenchments. As a result he becomes less insecure, less isolated, less hostile, and the resultant improvement in his rela-

schools of psychoanalysis recognize to some degree the interdependence of social relationships and ideas, the psychoanalytic tradition always greatly over-values the primary influence of ideas. To make matters worse it endows ideas with an abstract independent existence, as "instincts," or makes them relatively independent by relating them to experiences long past, or derivative from an abstract cultural tradition. It minimizes the basic fact that ideas are derivative from social relationships, and are continually modified by changing relationships.

As a consequence, psychoanalysis is very attractive to many troubled people who are unable, unwilling, or otherwise unprepared to undertake the action necessary for their social adjustment. It is no accident that psychoanalysis makes a particular point of being independent of ethical considerations and that psychoanalysts are often scornful of the kind of psychiatry that gives advice.

Even the advanced psychoanalysts leave big loopholes for the orthodox point of view. A crucial point concerns the changeability of human nature. The instinct theory makes human nature relatively fixed. But so does an undue emphasis on childhood experience. This aspect of psychoanalytic theory can be regarded as a scientific expression of the popular notion that the tree's inclined the way the twig is bent (which, by the way, does not accord with the botanical facts). "There is no doubt whatever," writes Horney (New Ways in Psychoanalysis, p. 152), "that childhood experiences exert a decisive influence on development . . . with some persons this development essentially stops at the age of five, with some it stops in adolescence, with others at around thirty, with a few it goes on until old age." Robbins, for example, attacks Alexander for his insistence on the biological origin of certain human attitudes, but in the course of his attack shares the assumption that neuroses are based upon childhood experiences. "The question is clear," he wrote, "what are the conditions in infancy and childhood out of which neuroses evolve?" (Science and So-

tionship with others, and with himself, in turn makes the neurotic trend less necessary and increases his capacity to deal with it."

ciety, 6: 376, 1943.) Other analysts discard the instinct theory, but regard the need for sexual gratification as a "basic biological drive," like hunger and thirst, and proceed to exaggerate its social function. This reminds one of the man who was a staunch vegetarian, except for veal cutlets, which he liked.

As scientists and physicians it would be absurd for us to take the view that we are opposed to the analysis of neurotic symptoms. In the plain English meaning of the term analysis we certainly recognize the frequent necessity for the careful, detailed and painstaking unravelling of mental symptoms or personal problems. We must also recognize that free association, dream analysis, the understanding of symbols and of mental mechanisms are all invaluable aids to such analysis. But we do not regard the analysis as an end in itself. The end point of every analysis of a neurotic symptom should be an understanding of the social relationships that both initiated and maintained the symptoms or disorder, or an understanding of the physiological derangement involved. In either case the analysis must lead to a line of action that would serve to adjust the social relationships or relieve the physiological derangement. The analysis in other words is a preliminary to treatment and is not in itself a treatment, just as historical analysis is a guide to social action but no substitute for it.

A socially oriented psychiatry built on democratic standards need not limit itself to standards and criteria of a merely upper class psychiatry. It should not, for example, regard comfortable adaptation to a static social order as either a possible or desirable standard or psychotherapeutic goal. If frustration, bitterness, aggressiveness, and depression become the lot of a portion of our population under certain social conditions, we can at least reject the paraphernalia of terminology, mechanisms, apologetics and fatalisms that support the resignation of psychiatry to this kind of discontent. In practice, over and over again, much of our contemporary psychiatry tells the neurotics to seek within themselves the causes of their discontent. It thus cultivates the fiction of the isolated man, of automatic instincts unfolding with an inner energy, and obscures

the true picture of man and personality developing within a social context. For this reason a socially oriented psychiatry must erect its own goals and describe its own standards. It must, moreover, shape its own tools to cope with the various kinds of discontent (not always dignified with the term neurosis) found in our society. The solid basis for such an undertaking lies in a broad social orientation. In the face of real problems, a preaching psychiatry that tells its patients to "adapt themselves," or bases its appeal upon encouragement or exhortation is as empty as the appeals for popular morale would be in an unjust war. Likewise, a merely cathartic psychiatry that aims to divert or diffuse disturbing impulses into socially useful or neutral channels, tends to disregard the real origin of neurotic difficulties and the material basis for their transmutation. Lacking a solid basis its value is bound to peter out as soon as the hard facts of life disturb the individual again. Our psychiatry must pay more than lip service to "social influences," "ego and super-ego problems," and "contributing situational factors." It is timely for our psychiatrists to reexamine the philosophy underlying their activities, and to restate their basic convictions. To that end the following propositions may form a fruitful basis for discussion:

Renewed emphasis must be placed on the material basis of mind, but mind must not be regarded as a phenomenon that can be studied in isolation, *i. e.*, apart from its anatomical and physiological substrate and its sociological superstructure. We must not accept any picture of mind or consciousness which endows it with fixed or static qualities, for not only can human nature be changed, but it is in fact always in process of change. The nervous system may be regarded as primarily an integrative organ, mediating on the one hand between the other bodily organs and systems, and on the other hand mediating the connections between separate organisms in the social body. Deficiencies and disturbances in these integrative functions sometimes occur, and at times there may be a relative incompleteness of integrative efficiency from brain injury, during coma, delirium, sleep, dreams, intoxication and the like. We need not



however regard the products of deficient integration as more important, more characteristic or more cogent than the refined products of a more highly integrated function. *In vino veritas*, for example, is an untrue proposition. The partial, distorted and fragmentary revelations of intoxication may be significant and interesting, but the drunken man does not reveal his "true" personality: he merely reveals the kind of personality he has when he is drunk. The same applies to sleep and dreams. The time has come to reassert the importance of conscious activity, in contrast to the enormous emphasis on the obscurities of the remote unconscious that has characterized Freudianism and its offshoots. It is not perhaps widely enough realized to what an extent Freud has belittled the significance of consciousness. The following passage from Freud's "Interpretations of Dreams" (Brill's translation, Macmillan, N. Y., 1933, p. 56) is typical:

A return from the over-estimation of the property of consciousness is the indispensable preliminary to any genuine insight into the course of psychic events. As Lipps has said, "the unconscious must be accepted as the general basis of the psychic life." The unconscious is the larger circle which includes the smaller circle of the conscious, everything conscious has a preliminary unconscious stage, whereas the unconscious can stop at this stage, and yet claim to be considered a full psychic function. The unconscious is the true psychic reality: in its inner nature it is just as imperfectly communicated to us by the data of consciousness as the external world by the reports of our sense organs.

With due regard to the limitations of physical endowment (which are also susceptible to change) it is, in the final analysis, social structure that determines human behavior together with the ideals and ideologies which motivate behavior. Without some form of social organization personality as we know it would have no meaning or existence. Patterns of behavior, language, ideas and personalities, all owe their being to the social context in which they arise and cannot claim an independent existence. Man has no fixed instincts of social behavior. Not even the pattern of normal sexual activity can be regarded as instinctive and innate: contemporary normal patterns of sexual maturity owe their development to a social context in which the monogamous

heterosexual family ideal is dominant. A socially oriented psychiatry need not assume the existence of innate inherent ideas related to social objectives. In this sense it rejects the inheritance of acquired traits, the inheritance of sexual antipathies or ideals, or racial loyalties, of a "collective unconscious," of ancient dream symbols and the like.

Freud's dictum, "Thought is behavior in rehearsal," (*Das Denken ist ein Probedenken*) should be raised to the dignity of a central idea. All thought is inextricably bound to behavior: changes in behavior—in the relation of one individual to others—effect changes in thought; and conversely, disorders of thought produce disorders of behavior. The key to an understanding of social behavior lies in an understanding of the organization of society—of its productive relationships in general, and the individual working relationships in particular. These economic motivations of behavior however should not be too narrowly regarded: individuals themselves are not always directly motivated by economic needs, for there is a large intervening area of group ideology, surviving tradition and past habit (all in complex inter-relationship) lying between the laws of economic necessity and individual behavior in specific situations.

Treatment of individuals should not be limited to talk alone. For one thing, the integrative apparatus, the nervous system, must be kept in good health, since disturbances in thought and behavior are often due to bad health, fatigue, tension and overwork. But for the great majority of people who look to psychiatrists for help it must be said that there can be no real mental health without a healthy harmonious working relationship to other individuals and to society as a whole. Psychiatrists should therefore emphasize the predominant importance of the family and social situation for the child, and of working conditions and social conditions for the adult. We wish to treat our patients in close collaboration with social workers or others whose interest and activity embrace the whole social milieu, and we share with social workers an immediate interest in the alleviation of unemployment, the provision of adequate food and shelter

for all, in the improvement of working conditions, in the provision of play facilities for children and of sport and cultural activities for adults, in security for the sick and aged, and in improved educational facilities for all.

Certain psychoanalysts will enthusiastically support these objectives, but will add that so far as their patients are concerned we must make the best of society as it is. These "advanced" psychoanalysts picture our society as a fairly uniform culture, and picture the culture as a body of ideas permeating our society. They overlook the fact that a culture is not primarily a system of ideas, but a system of active social and working relationships, and that in our own society the individual has considerable freedom to choose the kind of relationship he wishes to assume toward others. In this sense there is more than one kind of culture in our society toward which the individual can exercise his freedom of choice. Personality problems which are engendered by experiences, social relationships and situations, are supported and changed by experiences, situations and social relationships too. Those "advanced" psychoanalysts who acquire this insight are being forced step by step to deny the very premises upon which much of their professional activity depends. For if action and social relationships, work and working relationships are the key to any fundamental therapy of personality disorders, obviously the psychoanalytic procedure is then no longer therapy, but rather a preliminary to therapy: psychotherapy then becomes indistinguishable from elucidation or education. Common sense considerations, sound ethical values, good work for worthy ends, close identification with the popular forces of our democracy and constant exposure to their wholesome influence become basic. And insofar as mental disturbances are related to physiological disorders, psychoanalysis in the strict sense of the term tends to become less important too.

The chief difficulties of the "advanced" psychoanalysts are due to the fact that they find themselves deeply committed to certain psychoanalytic procedures, make their living from them, have developed certain organizational and institutional ties and have

too often tended to isolate themselves from medical practice on the one hand and from popular movements on the other. A practicing psychoanalyst usually sees private patients with neurotic problems in isolation in his home, hotel or office, for one hour sessions, usually several times a week and over a period of months or years. It is mainly middle class and white collar elements who are attracted to psychoanalysts for help, and it is mainly these who can afford this type of treatment. Industrial workers are a distinct rarity in psychoanalytic practice. This unsatisfactory state of affairs has stimulated interest in a number of new developments in psychoanalytic circles: a closer interest in medicine (though in psychosomatic medicine the psychoanalysts meet medicine on their own terms), experimentation with more rapid forms of treatment (brief psychoanalysis) and group therapy. It is significant that under wartime conditions almost all practicing psychoanalysts who became army or navy psychiatrists soon devised or accepted new quick techniques for the treatment of nervous disorders. The emerging demands of industrial psychiatry will require similar adjustments. But each new progressive advance involves either a dilution or contradiction of some Freudian principle. Psychoanalytic theory, like many other things, is being shaken to its foundations by the war. The psychoanalyst who accepts group therapy as a valuable new technique, for example, exposes himself at the same time to some refreshing influences emanating from the people. The analyst soon realizes that group therapy can be most effective if combined with cooperative working relationships for useful ends and operated as a joint democratic enterprise. But this is no longer psychoanalysis but the good life itself.

Neurotic complaints revolve about internal conflicts. Freud believed the conflict is precipitated by the opposition between instinctive drives and the repressive demands of organized society. To Horney the conflict represents a clash between the demands of the present and the attitudes created by one's past. In reality neurotic conflicts are both engendered and maintained by the contradictory nature of the actual

social relationships in which we are involved; they can be regarded as mental reflections of real relationships. The mental conflicts cannot be resolved until there is a corresponding resolution of these contradictory relationships. There is a time-lag involved in the change, to be sure, but it is not as great as some psychoanalysts suppose.

A single brief case history can illustrate our point of view; the "Lady in the Dark." In this motion picture we are presented with an especially seductive psychoanalytic formulation and solution of a woman's problem—in technicolor. The heroine is a business executive who is depicted as unhappy (*i. e.*, neurotic) because of the conflict between her unconscious wish to be a woman (*i. e.*, passive) and to be successful in her career (*i. e.*, to be masculine or active). She has repressed her innate femininity because of a childhood experience (scolded by her father for trying to be pretty like her mother). This early experience is recalled to her by psychoanalysis; the picture ends when the lady—who is now supposed to be no longer in the dark—capitulates to her femininity and yields herself and her position to an aggressive man.

Actually the lady's conflict did not lie in the past, but in the present: the conflict between business success and femininity is a real conflict created by the position of women in our society. This conflict is not resolved by submission to the orthodox pattern of femininity, and such submission should not be represented as an acquiescence to an overwhelming innate need. The psychoanalytic formulation of the film represents nothing but misstatement and gross evasion of a real and typical woman's problem, the solution of which lies very much in the realm of practical affairs.

But this is only one particular type of problem, and there are many others. A consideration of social relationships is basic to an understanding of most of them, but it would be naive and mechanical to overlook the intricacies involved in this dependency. Although adult personality patterns are not rigidly fixed, it must be recognized that ma-

ture individuals have acquired a personality of their own, related to biological endowment, past experiences, ideological influences, varying individual and social pressures, long-range individual and group needs, and condition of health, in addition to their immediate social situation. Moreover, their personality makes them react to their social situation in many complex and often contrary and bewildering ways. It is the main task of analysis to reveal these influences and to relieve the bewilderment that is characteristic of the neurotic development, so that effective action can follow.

The complexity of the processes involved is, however, too often exaggerated. Most people are going to get relief from their unhappy conflicts by a change in their social relationships and social functions; even the analysed patients will not escape the necessity of maintaining wholesome social relationships too. The transition to wholesomeness may be rather difficult for some people, and practically impossible for a few, unless there are strong incentives for doctor or patient or both to expend the time, care and patience required for the change.

These broad considerations are intended to apply to the generality of people, and not to the exceptional few. The great prevalence of anxiety emphasized by one contemporary psychoanalytic school is surely the reflection of the sense of insecurity that isolated individuals must feel in a society that is at times too harshly competitive. The correct antidote is a consolidation of social feeling with these broad sections of our population that have the need for real social solidarity. The mere activity of participation in cooperative work for socially useful ends is therapeutic. It creates moreover the preconditions for a successful advance of our democracy to larger social objectives. It is only the realization of these social objectives that can secure full happiness and mental health to our people. Psychoanalysis after a long and devious detour must again base itself on these fundamentals which it sought for a while to evade.

## ELECTRONARCOSIS—A THERAPY IN SCHIZOPHRENIA<sup>1</sup>

ESTHER BOGEN TIETZ, M.D., GEORGE N. THOMPSON, M.D.,  
A. VAN HARREVELD, M.D., AND C. A. G. WIERSMA, PH.D.

### INTRODUCTION

A beneficial effect on schizophrenic patients has been reported from the use of electroshock treatment, although this is much less marked and lasting than results achieved by the use of insulin therapy (1, 2, 3, 4). A means to increase the benefit obtained by electroshock was sought in electronarcosis, which had been studied in experimental animals for the last 40 years. This is a method of prolonged application of electric current to the brain, causing a controlled state of unconsciousness preceded by a modified convulsion. Much preliminary work was carried out on animals before adapting electronarcosis to human subjects (5, 6, 7); more than 100 electronarcoses were induced in 9 patients without any serious complications and it was concluded that the method is without danger when cautiously applied (8). The present study is an evaluation of electronarcosis based on the treatment of 47 cases of schizophrenia.

### METHOD

Men and women patients with an average age of 24 and with typical schizophrenia of a duration of less than 2 years were selected. The following preliminary studies were carried out: social history, psychiatric, physical, neurological and psychological examinations, electroencephalography, electrocardiography, x-ray of chest and spine, blood sugar and nonprotein nitrogen determinations, urinalysis, blood counts and blood Wassermann. Patients revealing the presence of any serious physical defect or disease, mental deficiency, organic brain damage, alcoholism or other

toxic states were eliminated. Most of the patients selected had predominantly paranoid features although some were of a mixed type.

The instrument with which electronarcosis is applied is an electronic device which delivers a 60-cycle alternating current. It automatically compensates for moderate changes in resistance of the patient's circuit.

Flat 1-inch square metal electrodes wrapped in gauze, soaked in 10 percent salt solution are applied in the temporal region; the posterior and lower corner of the electrode is usually placed  $1\frac{1}{2}$  inches above the zygomatic arch and 3 inches anterior to the mastoid process. Electrode jelly is used over the contact area and the electrodes are held in place by a gauze bandage or a special small scultetus flannel bandage with pockets for the electrodes. Throughout the treatment the blood pressure and pulse rates are taken through a two-way stethoscope. A firm pillow is placed in the small of the patient's back and another under his head, and the bed on which he is treated is held rigid by boards which prevent sagging of the springs. Gauze covered tongue blades, 4-thick, are placed on each side of the patient's mouth between the teeth to prevent biting the tongue and to insure space for placement of a Guedel airway adapted for aspiration of saliva.

A current of 160-250 milliamperes is applied after the resistance between the electrodes has been measured. The current is maintained at the initial level for 30 seconds during which the patient has a tonic spasm; at the end of 30 seconds the current is dropped to 60-75 milliamperes and at this time the patient usually shows clonic contractions. The onset of respiration, initiated usually by a deep gasp, occurs at from 40 to 70 seconds and about this time, either before or after the gasp, the airway is inserted. At 60 to 75 seconds, when breathing has been re-established, 5 percent carbon dioxide in oxygen (carbogen) is administered using an anesthetic mask. The current is raised gradually (5 ma/15 sec) until an inspiratory

<sup>1</sup> Read at the Centenary Meeting of The American Psychiatric Association, Philadelphia, Pa., May 15-18, 1944.

From California Institute of Technology, Los Angeles County General Hospital, University of Southern California, aided by grants from the Hixon Fund of the California Institute of Technology and the Scottish Rite Mason's Fund for Research in Dementia Praecox.



stridor develops. During this time there usually appears flexor tone in the arms, the pupils are constricted and fixed, there is often an absence of forced grasping, and the hand is held in a carpo-pedal position. If the stridor disappears, the current is slowly raised again to a maximum of 125 milliamperes at 5 minutes. After this time no further increase is attempted because of the danger of inducing a second convulsion. In some patients the narcosis becomes more superficial toward the end of 7 minutes, the tone decreases, forced grasping reappears and there are intentional movements. For reasons of standardization, therefore, the treatments administered to this series of patients were limited to 7 minutes. The patient is unconscious during the entire treatment. In all cases, within a few minutes after cutting the current, consciousness is regained and there were at no time any untoward sequelae.

#### RESULTS

To date 47 patients (20 male and 27 female) have been treated. The greatest number of treatments given to any one patient was 39, the smallest 7, the great majority of patients receiving between 15 and 25 treatments. Whenever possible, the patients were rated one month after concluding treatment. Of the 47 patients, 19 were A recoveries, complete remissions with insight; 17 were rated B, a social adjustment but with retention of some personality defects; 5 were rated C, showing improvement; and the 6 remaining patients (D) were not improved. Of the 6 failures, 3 were subsequently found to have had previous attacks more than 2 years before treatment, in spite of our efforts to select patients with recent onset. The 3 others showed marked hebephrenic features.

It is of interest to note that the intelligence quotients of the treated patients were generally higher after treatment than at the initial tests; that there was a marked decrease in scatter, and that the conceptual quotients, based on the Shipley Hartford tests, were higher. A general improvement in the physical condition of the patient accompanied the mental improvement.

#### COMPLICATIONS

There were no frank fractures observed during the course of treatments. Most patients complained of headaches after treatment, but this was less frequent and not so severe after carbogen was used during the treatment(11). Before the use of carbogen and thiamin chloride memory defects, lack of energy, and electroencephalographic dysrhythmias developed(16); but the patients treated by the improved technique seemed more energetic and alert, showed better memory, and a more normal electroencephalogram. In the few instances in which disturbed patients were actively resistive, it was found useful to give intravenous sodium amytal slowly in doses just large enough to overcome the patient's resistiveness without inducing sleep. Sodium amytal in these doses does not interfere with the treatment.

#### CONCLUSION

The results obtained with electronarcosis in schizophrenia are definitely superior to those obtained with electroshock. For instance, figures of a group of 37 schizophrenics treated by the latter method gave(9) 16 percent recovered patients, 27 percent improved, a total of 43 percent recovered and improved and 57 percent failures and slightly improved. Other authors report approximately the same results(10, 12, 13, 14, 15). Such results compare poorly with 76 percent recovered and improved and 13 percent failures in our series.

These figures indicate, moreover, that the therapeutic results of electronarcosis approximate those of insulin shock therapy (13).

#### SUMMARY

1. Electronarcosis is a safe and practical method of treatment for schizophrenia. Over 1000 treatments have been given without fatality or significant complications.

2. The therapeutic effects of electronarcosis in a group of schizophrenic patients were superior to those expected of electroshock treatment and about the same as results expected from insulin shock therapy.

## BIBLIOGRAPHY

1. Meyerson, Abraham. Further experience with electroshock therapy in mental diseases. *New Eng. J. of Med.*, **227**: 403-407, Sept. 10, 1942.
2. Ebaugh, Franklin G. A review of the drastic shock therapies in the treatment of the psychoses. *Annals of Intern. Med.*, **18**: 279-296, March 1943.
3. Lewis, Nolan, D. C. The present status of shock therapy of mental disorders. *Bull. N. Y. Acad. Med.*, **19**: 227-244, April 1943.
4. Bennett, A. E. Present status of convulsion therapy. *Revista Mexicana de Psiquiatria, Neurologia y Medicina Legal*, **9**: 23-33, July 1, 1942. Abs. from the Science Library, Hartford Retreat, Series X, No. 73.
5. Van Harreveld, A., Plessett, M. S., and Wiersma, C. A. G. The relation between the physical properties of electric currents and their electronarcotic action. *Am. J. Physiol.*, **137**: 39-46, August 1942.
6. Van Harreveld, A., Tyler, D. B., Wiersma, C. A. G. Brain metabolism during electronarcosis. *Am. J. Physiol.*, **139**: 171-177, 1943.
7. Globus, J. H., Van Harreveld, A., Wiersma, C. A. G. The influence of electric current application on the structure of the brain of dogs. *J. Neuropathol. and Exper. Neurol.*, **2**: 263-276, July 1943.
8. Frostig, J. P., Van Harreveld, A., Tyler, D. B., Reznick, S., and Wiersma, C. A. G. Electronarcosis in animals and man. *Arch. Neurol. and Psychiat.*, **51**: 232-242, March 1944.
9. Epstein, Joseph. Electric shock therapy in the psychoses. *J. Nerv. and Ment. Dis.*, **98**: 115-129, August 1943.
10. Pacella, B. L., and Barrera, S. E. The follow-up on a series of patients treated by electric and metrazol convulsion. *Am. J. Psychiat.*, **99**: 513, January 1933.
11. Holovochka, Anna. Oxygen in electro-shock therapy. *J. Nerv. and Ment. Dis.*, **98**: 485-487, Nov. 1943.
12. Reznikoff, Leon. Comparison of metrazol convulsive therapy with electric shock in treatment of schizophrenia. *Arch. Neurol. and Psychiat.*, **49**: 587-593, April 1943.
13. Malzberg, Benjamin. The outcome of electric shock therapy in the New York Civil State Hospitals. *Psychiat. Quart.*, **17**: 154-163, January 1943.
14. Glueck, Bernard D. Psychopathologic reactions and electric shock therapy. *N. Y. State J. Med.*, **42**: 1553-1557, August 15, 1942.
15. Hemphill, R. E. Electrical convulsion therapy. *Lancet*, **243**: 152-154, August 8, 1942.
16. Pacella, B. L., and Barrera, S. E. Some considerations of the electroencephalogram in the "convulsive state" (Electrically Induced Seizures). *J. Nerv. and Ment. Dis.*, **96**: 125-129, August 1942.

## PSYCHIATRIC OBSERVATIONS IN A COMBAT AREA IN THE SOUTH PACIFIC<sup>1</sup>

COMMANDER JAMES M. HENNINGER (M.C.), U.S.N.R.

In this brief comment upon the insistent problems of the neuroses of war, I shall dwell chiefly upon the entity of combat fatigue—a condition so aptly named, now so well defined by others, and daily better understood by psychiatrists, medical men in general and the military personnel as a whole. The current emphasis upon this most prevalent of all psychiatric war disabilities is well deserved, in view of the tremendous toll from the standpoint of casualties that can be attributed to this single illness alone.

On the combat front, it is important to arrive at an early diagnosis and there is a growing unanimity of opinion that treatment instituted *early* is the *sine qua non* of recovery and the instrument to a favorable ultimate outcome.

For all practical purposes, it is well to bear in mind as the diagnostic criteria of combat fatigue (previously labeled psychoneurosis, war or traumatic neurosis) that we are dealing with a neurosis developing acutely under experiences of extreme threat to ego-security in individuals previously well integrated. Objectively, startle reaction is to some degree universal in the acute stage. Anxiety, tremors, sleeplessness, battle dreams and some degree of confusion or temporary amnesia are usually all present—at least in the early stages of the condition.

The conditioning factors which predispose to this profound personality disintegration may vary in intensity and duration. Usually, physical and emotional exhaustion are present to a degree sufficient to prepare a fertile field for a neurotic catastrophe. Then comes some terrifying life-threatening episode, unendurable to the psyche, which allows for only one response: an acute psychoneurosis.

<sup>1</sup> Read at the Centenary Meeting of The American Psychiatric Association, Philadelphia, Pa., May 15-18, 1944.

The views and opinions set forth in this article are the private ones of the author and are not to be considered as official or reflecting the views of the Navy Department or the naval service at large.

The precipitating factor, in my experience, is not the usual threat to life in accustomed or expected combat situations. Marines, sailors and soldiers alike have fought for months under extremely adverse situations, but the psychoneurotic break does not come until some unusual, or especially harrowing and ego-thwarting, situation develops. Among the most prevalent of such precipitating episodes, I should like to mention: retreat (even if strategic), isolation from group or relief, subjugation to shell or mortar fire rather than aerial bombing (with the likelihood of the next shell falling even closer), comparative helplessness due to a jammed gun or loss of weapon of aggression and defense, and the death of friends.

Finally, the tired and exhausted individual experiences a temporary dissolution of his psychic integrity. A temporary amnesia may develop to protect the ego, but the resultant train of symptoms with their concomitant anxiety produces a casualty and psychiatric emergency which calls for immediate treatment with the same insistent clarity as an acute hemorrhage or surgical shock.

From the standpoint of prophylaxis, one can point to a single factor, and that is morale. All measures which tend to strengthen morale from the moment of induction or enlistment automatically fortify the individual's defense against a psychoneurotic break under action. In this respect, one may mention: conditions on the home front and in the home, esprit de corps, confidence in superiors, training in the duty assigned, confidence in arms and armament, adequate food, sufficient rest periods and relaxation, and psychological preparation to face the enemy with both intellectual and emotional realization of the *causa belli* and of one's own self-sacrifice, if need be.

The one single principle generally agreed upon in the therapy of combat fatigue is early and massive sedation. Sodium amytal or pentathol appear to be the drugs of choice, and medical officers in the South Pacific

front have increasingly adopted this procedure.

In island and atoll struggles, evacuation to some more sheltered area is usually imperative for all types of casualties. Victims of combat fatigue are transported under amytal sedation which may be continued in heavy doses, at least until the patient reaches a base hospital "behind the lines." I am in full accord with those authorities who oppose early or distant evacuation of patients who should be treated as near to the front as feasible. The unconscious purposive element in all neuroses strongly suggests the avoidance of creating complete security, such as evacuation to the mainland would achieve—at least, until all therapeutic possibilities have been exhausted overseas. I have seen patients who have appeared chronically ill for two months recover in the third, and return to duty. Although practical difficulties often govern evacuation, I believe that the transfer to the States of combat fatigue patients before 90 days is undesirable, as such additional immediate security threatens their eventual recovery and ultimate life readjustment.

At a base hospital, the management of fatigue states begins the moment the evacuation ship docks. Already, the patients have been diagnosed and tagged. Before assignment of neuropsychiatric patients to wards, they should be at least cursorily examined by a psychiatrist. This is not a lengthy procedure, but merely an appraisal by a trained man of the patient's possibilities. In a lineup of patients, all combat fatigue victims, one can estimate the recovery possibilities on the basis of tension, animation, age and general appearance. The older, the extremely jittery, the depressed and the seclusive have less likelihood of early rehabilitation. Obviously, under no condition should combat fatigue patients be placed with psychotics or chronic psychoneurotics when segregation is possible.

It was the accustomed procedure at the base hospital to which I was attached for a psychiatrist to select in the manner designated combat fatigue patients for special consideration. They were, upon admission, assigned to a special ward where already others who had arrived previously were hospitalized

and in various stages of improvement. The spirit of this ward was maintained at a standard of recovery. From the moment of assignment, the patients realized that they were not—as were many others in the neuropsychiatric wards—scheduled for return to the States. In fact, patients who after observation and study proved refractory to treatment, were transferred to another ward.

To compensate for this, at times, rather rude awakening, certain privileges were granted to patients in this ward which did not pertain to any other ward in the hospital. These privileges included more frequent opportunities for liberty, and the chance to play ball, swim and enjoy other recreational pursuits at more frequent intervals. Regimentation was avoided as much as possible to a point still compatible with necessary rules and discipline. Those who showed promise of recovery, in other words, were transferred to this ward as encouragement and reward.

The management of the patients was further modified and controlled by the careful selection of corpsmen with understanding of the special problem faced, and training in that direction. Formal ward rounds were reduced to a minimum; bed patients were treated elsewhere. However, the psychiatrist was readily available and easily accessible for any who wished to see him.

When anxiety and tension symptoms were paramount, sedation was employed generously during the early days of hospitalization. This greatly limits the nervous shock, aids in reintegration, and establishes confidence. The patient is given every encouragement to ventilate spontaneously in interviews, or under amytal narcosynthesis, and thus works through his traumatic experience with special interest in any amnesic period or repressed material. Group psychotherapy was not here used in the classical sense, but the men were encouraged to talk together about their mutual experiences; those who tended to avoid such discussions were treated individually until they felt at home in the group. Invariably, in such a ward, there will be one or two men who never tire of recounting their battle experiences or the progress of the campaign. This facilitates



the group in what might be termed "group autopsychotherapy."

It is the duty of the psychiatrist in charge to maintain the will-for-recovery. He must remove from the patient's mind any thoughts of cowardice, nor shall the patient be allowed to lean upon his ailment as a crutch or badge of merit. This fine distinction requires patience and perseverance, as does the management of any psychoneurotic illness. It is unwise to dig too deeply into the prior life of these patients, even though such searching inquiry might at times lead to a better understanding of a particular individual's problem. Rapport is much better maintained and recovery is facilitated if we consider combat fatigue as a temporary and entirely immediate problem.

Early rest is important, as is the provision of good food in abundance and delicacies such as ice cream, showers, comfortable beds and those physical comforts which the patient may have been long denied.

I should like to emphasize the importance of attitude: avoidance of maudlin sentimentality, and the encouragement of sympathetic understanding. Psychiatrists need no such admonition; however, all medical officers should be instructed in the psychiatric approach to that extent at least. Trained nurses and semi-permanently attached corpsmen who have had psychiatric experience should be assigned to such duties. Recreational activities should be supervised to the extent that participation by the entire group is assured. The medical officer can often judge improvement as much by observation of the group activity as by individual interviews. The re-establishment of the individual as a social being is encouraged by team sports. One baseball team composed entirely of rather ill combat fatigue patients defeated several teams from ships to the aggrandizement of their collective ego.

Occupational therapy has a place—if pleasing to the patient. It is a satisfactory adjunct to decrease introspection early in the illness. It is futile and damaging to provide only

routine manual tasks for intelligent individuals, however, and the more classical types of occupational therapy such as weaving, mat-making, etc., are degrading or uninspiring to the average sailor or marine. We are fortunate in our South Pacific island base to have an abundance of cocoanuts, sea shells and some Zero aluminum, all excellent media for souvenirs, and little encouragement is required in this line of manual and artistic endeavor.

As to the question of prognosis, I have already alluded to the less hopeful signs—including marked seclusiveness or depression and extreme anxiety, especially in the older age group. However, I would caution against an early opinion, as the more acute cases at times show complete, though slower, recovery. I believe that all patients should be treated in an area not too far removed from combat. Cases that develop insidiously under operational rather than combat conditions have a more unfavorable prognosis, and are more akin to a true anxiety neurosis. The value of group psychotherapy and any advantages it may have over individual catharsis is probably a question of expediency. However, that problem will surely be solved by those now so engaged.

It is the mission of the Navy medical department to keep as many men at as many guns as possible. Although the morbidity of fatigue states is very large, in my observation at least, fatigue states in themselves should never be considered as a permanent disability, especially when the neurosis develops in a previously well-integrated personality. Combat fatigue may not be a completely preventable disability, but its incidence can be reduced by national and military attention directed towards morale-lifting efforts. "Psychoneuroses of war"—the "shell shock" of yesterday—is, in my opinion, a recoverable disease with generally favorable prognosis when sound principles of psychiatric therapy are scientifically applied.

## CASE REPORTS

## PROLONGED INSULIN SHOCK

The use of insulin shock treatment has emphasized the danger of inducing prolonged shock and permanent cerebral damage. We are reporting the case of a patient who survived 96 hours of hypoglycemic coma during the course of insulin shock therapy for dementia præcox.

The soldier was a 30-year-old white paratrooper with 1 year of service. He was first seen in the battalion dispensary after returning from an active battle front where he was under fire. He was tense, nervous, and had many delusional and hypochondriacal ideas. A few days later he was transferred to a general hospital where the picture presented was changed. He complained of feelings of electricity in his body; felt that he was in a prison camp; that other patients talked about him; that one of the medical officers was a German officer in disguise; that he had been given drugged cigarettes. He was transferred to this hospital ten days later, and in addition had complaints of ringing in the ears, pains in the chest and abdomen, and admitted that he heard imaginary voices. His memory for recent events was poor, but intact for remote. There was moderately severe psychomotor blocking. He was diagnosed dementia præcox, paranoid type, and insulin shock treatment was recommended. Complete physical examination including EKG, blood count, chest X-ray, and urine were within normal limits.

The fourth coma was induced with 115 units, and resembled the previous three comas, but oral administration of glucose after 1 hour failed to rouse the patient. Intravenous administration of glucose (100 grams) followed by an infusion of 2000 cc. of 10% glucose produced no change. During the remainder of the day he was tube fed with eggnog and normal saline alternately every hour. His temperature slowly rose during the first day until it reached a peak of 103.8 despite the administration of ample quantities of fluid. His temperature subsided during the first night, and again on the second day he was tube fed with eggnog

and saline. Temperature rose to 102° on the second day, subsiding to normal during the night. He had to be tube fed several times on the third day, and by the end of the day he would respond to a voice by turning in the direction of the voice. The patient was stuporous on the fourth day, but could be persuaded to take a little nourishment by mouth. He began to talk on the fifth day, but was disoriented and retarded. By the fourteenth day the patient presented a normal and friendly manner. Spontaneous productions seemed somewhat less than normal but he responded to questions promptly and fully. The soldier had an excellent memory for the development of his symptoms, and recognized the fact that he had been having hallucinations and delusions. Throughout his stay in the hospital he showed a normal affective response to every situation.

The patient presented an ever-changing neurological picture during the course of his coma. At the outset he showed many rigidities alternating with flaccid relaxations of the entire body, fixed pupils, and dissociated ocular movements. For a few hours on the second day of the coma he presented a left-sided facial weakness which disappeared, transient irregularities of his deep reflexes, slight nuchal rigidity, and positive Kernig responses. The neurological changes were completely gone by the fourth day. The patient's fasting blood sugar on the second and fourth days of coma was 100 and 85 mg.% respectively. Electroencephalographic examination showed the following changes: the only feature of interest was an unusually wide spread of alpha frequencies. Analysis showed the dominant components to be at 7, 10, 12 and 14 c/s. Occasional epochs showed very flat-topped frequency spectrums. This record is barely outside the normal range and suggests a very slight degree of residual cortical disturbance.

WALTER GOLDFARB, Major, M. C.

J. M. LAUGHLIN, Capt., M. C.

H. E. KIENE, Major, M. C.

## CORRESPONDENCE

### PLIGHT OF THE NATIONAL PSYCHOPATHIC HOSPITAL IN THE PHILIPPINES

In a letter addressed to the Secretary of The American Psychiatric Association Dr. Jose A. Fernandes writes from Manila:

I am the supervising alienist (clinical director) of the National Psychopathic Hospital of the Philippines. I am appealing to you for help, individually and for the hospital. Our hospital was left by the Japanese with but the buildings and 300 out of the 3300 patients. We have no medicines, instruments, library, beds, etc.

We will appreciate what help you can give, because we are in dire need. Personally I have lost everything and my wife and four children are actually destitute.

Our government cannot give us actually what we need, and we are resorting to individual initiatives. Thanks and yours respectfully,

JOSE A. FERNANDES, Supervising Alienist,  
National Psychopathic Hospital,  
Mandaluyong, Manila, Philippines.

### ANNUAL MEETING, AMERICAN PSYCHIATRIC ASSOCIATION

As previously announced the annual meeting originally scheduled to be held during May in Chicago was cancelled. Some consideration had been given to the possibility of holding the meeting later in the year and as a tentative date the last week in August had been mentioned. At a recent meeting of the executive committee however, it was finally decided that no meeting could be held this year.

It is hoped that the meeting may be held next year at the usual time in Chicago.

## COMMENT

### EQUANIMITY

There may be some state of ultimate philosophic calm, some detached Superconsciousness unrelated to worldly strife and human feeling that can view the German horror with equanimity. It may be argued that since there is nothing good or bad but as thinking makes it so, a generous even merciful attitude should be adopted toward the German people—a policy of turn-the-other-cheek or of forgive-them-for-they-know-not-what-they-do.

Something of this sort seems to be the standpoint of President Hutchins of Chicago University in his address to the students on V-E Day. Said Hutchins: "We cannot support the thesis that because German leaders acted illegally, therefore they should be treated illegally (*sic*). Two (*sic*) wrongs do not make a right . . . we must treat them with justice and, if possible, with mercy." It is difficult to perceive the logical integrity of these sentences. He adds: "The wildest atrocity stories cannot alter the simple truths that all men are human, that no men are beasts." Here, we venture to believe, there will be those who will hold that Hutchins is arbitrarily abusing the use of words. And then as if to clinch the argument he piously exclaims: "Let us remember that vengeance is the Lord's."

Following Hutchins' line of pure reason, one may ask why are there throughout the land criminal courts? Why are malefactors tried for their crimes, sometimes convicted, even executed? It is fully realized that there are individuals at the extreme south on the disciplinary meridian who hold, or at least proclaim, that evil-doers should not be "pun-

ished," only "treated." Yet for a hundred years courts in the English speaking world have steadily maintained that to be excused from the consequences of his criminal deed the accused must be to such degree mentally disordered as not to know the nature and quality of his act, or not to know that it is wrong. The psychopath is not a normal person, he is not a wholesome person; but when charged with an offense, the diagnosis "psychopathic personality" will not protect him from punishment if guilty. The idea of punishment may not be pleasant to the squeamish; but it pairs with the concept of reward. Throughout history reward and punishment have been held to be the logical, if not always the inevitable consequences of human acts. To declare the one acceptable and the other unacceptable seems as unbalanced an attitude as to abolish hell and cling to heaven.

In the kind of world in which we live, or are likely to live, those who see no need to punish criminal behavior seem not to be realistically treading the earth. Presumably they constitute a negligible minority, just as those whose conscience will not permit them to take up arms in defense of the elementary rights of mankind against savages who would throw the process of social evolution into reverse are likewise, and fortunately for civilization, a negligible minority.

We surmise that President Hutchins and the rest of us may safely leave the matter of dealing with the war criminals in the hands of the constituted agents of the United Nations.

### DR. TREADWAY RETIRES FROM THE U. S. PUBLIC HEALTH SERVICE

A recent letter from our associate on the editorial board of the JOURNAL telling of his new home in Santa Barbara, California, following his retirement as Medical Director from the United States Public Health Ser-

vice, presents an enviable situation which seems the well-earned reward of many years of devoted service.

Dr. Treadway's retirement, effective March 1, 1945, before he had reached his



sixtieth birthday, was authorized because of impairment of health incurred in line of duty. For more than thirty-two years he had served as a commissioned medical officer in the Public Health Service in the field of mental hygiene, having passed through the ranks from that of assistant surgeon to that of medical director which he reached in 1939.

During this long span of years his work was of many kinds and in many places. It included mental hygiene surveys of school and institution populations in several state jurisdictions, duty as chief of the psychiatric services of the War Risk Insurance Bureau, as medical officer in charge of mental hygiene field studies at Harvard Medical School, service in Western Europe for the purpose of organizing a system of medical examinations in countries of origin for prospective immigrants to the United States as required by the Immigration Act of 1924. Numerous other assignments had been filled by Dr. Treadway; whenever a new government activity in the field of mental health was on foot he was the likely one to be chosen to take the lead.

In 1929 he was appointed Assistant Surgeon General in charge of the newly created Division of Mental Hygiene in the Public Health Service, a position he held nearly ten years. During this time, as chairman of an interdepartmental committee he was mainly responsible for the selection of sites and the planning and organizing of the two hospitals for the treatment of drug addiction at Lexington, Kentucky, and Fort Worth, Texas. To his credit was also the organization of medical and psychiatric services in the Federal Penal and Correctional Institutions. From 1936 to 1938 Dr. Treadway acted as chairman of the Mental Hospital Survey Committee of America, and in 1939 as one of his most conspicuous public health services he was the chief organizer of a Symposium on Mental Health, held at Richmond, Virginia. This elaborate symposium was under the joint auspices of the American Association for the Advancement of Science, the United States Public Health Service, The American Psychiatric Association, the National Committee for Mental

Hygiene and the Mental Hospital Survey Committee. In a foreword to the 470-page volume of the proceedings (Publication No. 9 of the A. A. A. S.) Dr. F. R. Moulton wrote:

Dr. Walter L. Treadway, Assistant Surgeon General, U. S. Public Health Service, devoted several months almost exclusively to the preparations for this contribution to a great public health problem. The thoroughness of his plans and the high level on which they have been carried out make this undertaking a model of its kind.

To the question of drug addiction Dr. Treadway gave much attention. He was a member of a committee of the National Research Council and of an international committee under the League of Nations for the study of the problem. Appointed by the President as delegate plenipotentiary he was a signatory to the Geneva Convention for the limitation of the manufacture of narcotic drugs in 1931. In 1938 he assumed charge of the Public Health Hospital for narcotic cases at Lexington, Kentucky.

As official delegate of the government he participated in the International Neurological Congress in Paris (1935), the second International Congress on Mental Hygiene (Paris, 1937) and the first International Congress on Child Psychiatry in Paris the same year.

Since 1939 Dr. Treadway has lived on the west coast, having been detailed to the University of California Medical School to collaborate with the university and the Department of Institutions in establishing a psychiatric hospital (the Langley Porter Clinic) and a department of psychiatry in the medical school. Since 1941 he has served as medical officer in charge of Public Health Service Relief Station at Los Angeles and medical representative of the War Shipping Administration at that port.

So varied a career has been rich in many administrative, judiciary, clinical and research activities, some of the more important of which have been mentioned. Their mere recital indicates the very considerable part Dr. Treadway has played in the ever-widening field of mental health over these many years. His release from the strenuous duties of active service is fully merited.

A  
Hoff  
Norv  
the  
with  
Norv  
who  
mans  
wrote  
me  
assis  
leave  
Clini  
thing  
and  
Th  
Hoff  
Saet  
O  
Gen  
calle  
clin  
by t  
T  
men  
reste  
Stan  
it in  
Dr.  
chia  
in C  
the  
D  
nent  
term  
syph  
tion  
abn  
and  
lar  
Jou  
cine  
also  
Cae  
191

## PROMINENT NORWEGIAN PSYCHIATRIST SHOT IN REPRISAL

A letter has been received from Dr. W. C. Hoffmann, physician in charge, "Eidsvold," Norwegian Government's Rest Home for the Merchant Marine at Katonah, N. Y., with which he encloses an obituary of the Norwegian psychiatrist Dr. Haakon Saethre who sometime ago was killed by the Germans in reprisal. In his letter Dr. Hoffmann writes: "The message of his death affected me personally deeply as I was his senior assistant when I in 1939 left Norway on leave of absence to work in the Phipps Clinic. And I have felt an urge to do something in the memory of this splendid scientist and patriot."

The JOURNAL is glad to put on record Dr. Hoffmann's memorial and tribute to Dr. Saethre, which follows.

On the 8th of February, 1945, the Police General of the Quisling party in Norway, called the Norwegian Heydrich, was machine-gunned to death on the street in Oslo by the Norwegian home forces.

The next morning several prominent members of liberal professions were arrested and shot, sentenced by the German *Standgericht*. Their relatives learned about it in the morning papers. Among them was Dr. Haakon Saethre, director of the psychiatric department of the General Hospital in Oslo, who was arrested when at work in the hospital.

Dr. Saethre was one of the more prominent Norwegian psychiatrists. He was internationally known for his studies in neurosyphilis, especially for his early demonstration of the connection between the different abnormal features of the cerebro-spinal fluid and their usual reaction to treatment in regular succession. The paper was printed in the *Journal of Laboratory and Clinical Medicine* in 1929. In the nineteen-twenties he also followed up the famous material of Caesar Boeck who during the years 1890 to 1910 at the university clinic did not give his

syphilitic patients any treatment at all—with the idea that treatment would impair the immunizing forces of the organism. Saethre demonstrated that neurosyphilis appeared less frequently in Boeck's material than in patients who had received the specific treatment usual in those days.

Dr. Saethre, who was born in Bergen in 1901, became head of the psychiatric department in 1933, following a thorough training in neurology and psychiatry with Monrad-Krohn and Vogt. Under him the service was greatly improved and thoroughly modernized.

Dr. Saethre was certainly picked as a victim because he was known for his unhesitating patriotism. In the German communique was indicated that he may have supported the underground financially. In a letter received in this country during the German occupation he said: "Others have no doubt told that we Norwegians are welded together, have become harder and more realistic, less indifferent and indolent than before."

The tragedy of his death recalls another incident nearly four years ago, somewhat similar in kind though significantly different in outcome, when another prominent Norwegian psychiatrist, Dr. Rolf Gjessing, was arrested. His arrest was acted upon at the annual meeting of The American Psychiatric Association in Richmond, Va.<sup>1</sup> Dr. Gjessing was arrested because he would not accept an inferior Quisling as superintendent of male nurses at his hospital. When Norwegian physicians as a body threatened to strike, the Quisling released Dr. Gjessing. That incident would seem innocent compared with what has been happening lately in Norway. The difference indicates the deadly enmity which during the years of occupation has developed between the Norwegian people and their hated overlords.

<sup>1</sup> Am. J. Psychiat. 98: 614. Jan. 1942.

## NEWS AND NOTES

### NATIONAL NEUROPSYCHIATRIC INSTITUTE ACT

Following is the text of H. R. 2550 as introduced in the House of Representatives by Mr. J. Percy Priest of Tennessee, March 9, 1945, and referred to the Committee on Interstate and Foreign Commerce.

#### A BILL

TO PROVIDE FOR, FOSTER, AND AID IN COORDINATING RESEARCH RELATING TO NEUROPSYCHIATRIC DISORDERS; TO PROVIDE FOR MORE EFFECTIVE METHODS OF PREVENTION, DIAGNOSIS, AND TREATMENT OF SUCH DISORDERS; TO ESTABLISH THE NATIONAL NEUROPSYCHIATRIC INSTITUTE; AND FOR OTHER PURPOSES

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,* That this Act may be cited as the "National Neuropsychiatric Institute Act."

SEC. 2. For the purposes of conducting researches, investigations, experiments, and demonstrations relating to the cause, diagnosis, and treatment of neuropsychiatric disorders; assisting and fostering similar research activities by other agencies, public and private, and promoting the coordination of all such researches and activities and the useful application of their results; training personnel in matters relating to neuropsychiatric disorders; developing and assisting States in the use of, the most effective methods of prevention, diagnosis, and treatment of neuropsychiatric disorders; there is hereby established in the United States Public Health Service (hereafter in this Act referred to as the "Service") the National Neuropsychiatric Institute (hereafter in this Act referred to as the "Institute").

SEC. 3. In carrying out the purposes of this Act, the Surgeon General of the Service (hereafter in this Act referred to as the "Surgeon General") is authorized through the Institute to—

(a) conduct, assist, and foster researches, investigations, experiments, and demonstrations relating to the cause, prevention, and methods of diagnosis and treatment of neuropsychiatric disorders;

(b) promote the coordination of researches conducted by the Institute, and similar researches conducted by other agencies, organizations, and individuals;

(c) make available research facilities of the Service to appropriate public authorities, and to health officials and scientists engaged in special studies related to the purposes of this Act;

(d) make grants-in-aid to universities, hospitals, laboratories, and other public or private institutions, and to individuals for such research projects as are recommended by the National Advisory Mental Health Council;

(e) for purposes of study, admit and treat at the Institute, voluntary patients, whether or not otherwise eligible for such treatment by the Ser-

vice, and patients of Saint Elizabeths Hospital transferred from the hospital pursuant to arrangements made between the Surgeon General and the Superintendent of the hospital with the approval of the Federal Security Administrator;

(f) collect and make available through publications and other appropriate means, information as to, and the practical application of, research and other activities carried on pursuant to this Act;

(g) secure from time to time, and for such periods as he deems advisable, the assistance and advice of persons from the United States or abroad, who are experts in the field of neuropsychiatric disorders;

(h) establish and maintain, from funds appropriated or donated for the purpose, fellowships in the Institute with such stipends and allowances (including traveling and subsistence expenses) as he may deem necessary to procure the assistance of the most brilliant and promising research fellows from the United States and abroad;

(i) (1) provide training and instruction in matters relating to the diagnosis, prevention, and treatment of neuropsychiatric disorders, (2) provide the necessary facilities where such training and instruction may be given to persons found by the Surgeon General to have proper qualifications, and designated by him therefor, and fix and pay such persons a per diem allowance during such training and instruction of not to exceed \$10; and (3) provide such training and instruction through grants, upon recommendation of the National Advisory Mental Health Council, to public and other nonprofit institutions;

(j) assist, through grants, demonstrations, and as otherwise provided in this Act, States, counties, health districts, and other political subdivisions of the States and nonprofit agencies in establishing and maintaining adequate measures for the prevention, treatment, and control of neuropsychiatric disorders, including training and instruction of personnel in subjects related to neuropsychiatry, and the provision of necessary facilities for such training and instruction; and

(k) adopt, upon recommendation of the National Advisory Mental Health Council, such additional means as he deems necessary or appropriate to carry out the purposes of this Act.

SEC. 4. (a) There is hereby created the National Advisory Mental Health Council, to consist of the Surgeon General, ex officio, who shall be chairman, and six members to be appointed without regard to the civil-service laws by the Surgeon General with the approval of the Federal Security Administrator (hereafter in this Act referred to as the "Administrator"). The six appointed members shall be selected from leading medical or scientific authorities who are outstanding in the study, diagnosis, or treatment of neuropsychiatric disorders. Each appointed member shall hold office

for a term of three years, except that any member appointed to fill a vacancy occurring prior to the expiration of the term for which his predecessor was appointed shall be appointed for the remainder of such term, and except that the first terms of the original appointed members shall expire, as designated by the Surgeon General at the time of appointment, two at the end of one year; two at the end of two years, and two at the end of three years. An appointed member shall not be eligible to serve continuously for more than three years but shall be eligible for reappointment if he has not served immediately preceding his reappointment.

(b) The Surgeon General is authorized to utilize the services of any member or members of the Council in connection with matters related to the work of the service, for such periods, in addition to conference periods, as he may determine.

(c) Each member of the Council, other than the ex officio member, while attending conferences of meetings of the Council or while otherwise serving at the request of the Surgeon General, shall be entitled to receive compensation at a rate to be fixed by the Administrator, but not exceeding \$25 per diem, and shall also be entitled to receive an allowance for actual and necessary traveling and subsistence expenses while so serving away from his place of residence.

SEC. 5. The National Advisory Mental Health Council is authorized—

(a) to review research projects or programs submitted to or initiated by it relating to the study of the cause, prevention, or methods of diagnosis and treatment of neuropsychiatric disorders, and recommend to the Surgeon General, for prosecution under section 3 of this Act, any such projects which it believes show promise of making valuable contributions to human knowledge with respect to the cause, prevention, or methods of diagnosis and treatment of neuropsychiatric disorders;

(b) to collect information as to studies which are being carried on in the United States or any other country as to the cause, prevention, and methods of diagnosis and treatment of neuropsychiatric disorders, by correspondence or by personal investigation of such studies, and with the approval of the Surgeon General make available such information through the appropriate publications for the benefit of health and welfare agencies and organizations (public or private), physicians, or any other scientists, and for the information of the general public;

(c) to review applications from any university, hospital, laboratory, or other institution or agency, whether public or private, or from individuals, for grants-in-aid for research and demonstration projects relating to neuropsychiatric disorders, and certify to the Surgeon General its approval of grants-in-aid in the cases of such projects which show promise of making valuable contributions to human knowledge with respect to the cause, prevention, or methods of diagnosis or treatment of neuropsychiatric disorders;

(d) to review applications from any public or other nonprofit institution for grants-in-aid for

training and instruction in matters relating to the diagnosis, prevention, and treatment of neuropsychiatric disorders, and certify to the Surgeon General its approval of such applications as it determines will best carry out the purposes of this Act;

(e) to recommend to the Surgeon General for acceptance conditional gifts pursuant to section 501 of the Public Health Service Act for carrying out the purposes of this Act; and

(f) to make recommendations to the Surgeon General with respect to carrying out the provisions of this Act.

SEC. 6. The Surgeon General shall recommend to the Administrator acceptance of conditional gifts, pursuant to section 501 of the Public Health Service Act, for study, investigation, or research into the cause, prevention, and methods of diagnosis and treatment of neuropsychiatric disorders, or for the acquisition of grounds or for the erection, equipment, or maintenance of premises, buildings, or equipment of the Institute, only after consultation with the National Advisory Mental Health Council. Donations of \$50,000 or over in aid of research under this Act may be acknowledged by the establishment within the Institute of suitable memorials to the donors.

SEC. 7. (a) To enable the Surgeon General to carry out the purposes of this Act with the exception of section 8, there is hereby authorized to be appropriated for the fiscal year ending June 30, 1946, the sum of \$10,000,000 and for each fiscal year thereafter a sum sufficient to carry out such purposes.

(b) For each fiscal year, the Surgeon General, with the approval of the Administrator, shall determine the total sum from the appropriation under subsection (a) which shall be available for allotments to States. He shall, in accordance with regulations prescribed by him with the approval of the Administrator, from time to time, make allotments from such sums to those States for plans which have been approved under this section.

(c) The Surgeon General shall from time to time certify to the Secretary of the Treasury the amounts to be paid to each State from the allotments to such State. Upon receipt of such certification, the Secretary of the Treasury shall, prior to audit or settlement by the General Accounting Office, pay in accordance with such certification.

(d) The moneys so paid to any State shall be expended solely in carrying out the purposes for which the grant is made and in accordance with plans presented by the health authority of such State and approved by the Surgeon General. The Surgeon General shall not approve any such plan unless it provides for expenditure thereunder, from funds of the State or from funds of the State and its political subdivisions, of such amounts as may be determined in accordance with regulations prescribed by the Surgeon General with the approval of the Administrator.

(e) Whenever the Surgeon General, after reasonable notice and opportunity for hearing to the health authority of the State, finds that there is a failure to comply substantially with either—



- (1) the provisions of this section;
- (2) the plan submitted under subsection (d);
- or
- (3) the regulations prescribed under section 10 (c) with respect to this section;

the Surgeon General shall notify such State health authority either that further payments will not be made to the State under this section (or in his discretion that further payments will not be made to the State under this section for activities in which there is such failure), until he is satisfied that there will no longer be any such failure. Until he is so satisfied the Surgeon General shall make no further certification for payment to such State under this section, or shall limit payment to activities in which there is no such failure.

(f) All regulations and amendments thereto prescribed under section 10 (c) with respect to grants to States under this section shall be made after consultation with a conference of the State health authorities. Insofar as practicable, the Surgeon General shall obtain the agreement of the State health authorities prior to the issuance of any such regulations or amendments.

SEC. 8. There is hereby authorized to be appropriated a sum not to exceed \$4,500,000 for the erection and equipment, for the use of the Institute in carrying out the provisions of this Act, of suitable and adequate hospital buildings and facilities, and of suitable and adequate laboratory buildings and facilities. The Federal Works Administrator is authorized to acquire, by purchase, condemnation, donation, or otherwise, a suitable and adequate site or sites, selected on the advice of the Surgeon General, in or near the District of Columbia for such buildings and facilities, and to erect thereon, furnish, and equip such buildings and facilities when funds are made available. The amount authorized to be appropriated in this subsection shall include the cost of preparation of drawings and specifications, supervision of construction, and other administrative expenses incident to the work: *Provided*, That the Federal Works Agency shall prepare the plans and specifications, make all necessary contracts, and supervise construction.

SEC. 9. (a) Sums appropriated to carry out the purposes of this Act (except section 8) may be expended in the District of Columbia for personal services, stenographic recording and translating services, by contract if deemed necessary, without regard to section 3709 of the Revised Statutes; traveling expenses (including the expenses of attendance at meetings when specifically authorized by the Surgeon General); rental, supplies and equipment, purchase and exchange of medical books, books of reference, directories, periodicals, newspapers, and press clippings; purchase, operation, and maintenance of motor-propelled passenger-carrying vehicles; printing and binding (in addition to that otherwise provided by law); pay, allowances, and traveling expenses of commissioned officers and other personnel engaged in activities authorized by this Act; and for all other necessary expenses in carrying out the provisions of this Act.

(b) Persons who are not citizens may be employed pursuant to subsection (g) of section 3 and

may be appointed to fellowships pursuant to subsection (h) of that section. Unless otherwise specifically provided, any prohibition in any other Act against the employment of aliens, or against the payment of compensation to them, shall not be applicable in the case of persons employed or appointed pursuant to such subsections.

SEC. 10. (a) There are hereby authorized to be appointed in the Public Health Service, in accordance with applicable law, such commissioned officers as may be necessary to aid in carrying out the provisions of this Act.

(b) This Act shall not be construed as superseding or limiting (1) the functions of the Surgeon General or the Service under any other Act, or of any other officer or agency of the United States, relating to the study of the prevention, diagnosis, and treatment of neuropsychiatric disorders; or (2) the expenditure of money therefor.

(c) This Act shall be administered by the Surgeon General under the supervision and direction of the Administrator. The Surgeon General with the approval of the Administrator is authorized to make such rules and regulations as may be necessary to carry out the provisions of this Act.

(d) As used in this Act, the term "State" means a State or the District of Columbia, Hawaii, Alaska, Puerto Rico, or the Virgin Islands.

DEATH OF COMMISSIONER ELLIS OF NEW JERSEY.—Dr. William John Ellis, a nationally known educationist and sociologist, died at his home in Trenton, New Jersey, March 11, 1945, at the age of 52. Born in Muncy, Pa., he graduated from Hobart College with an A.B. and M. A. Rutgers College in 1928 granted him a Ph. D., and he was also honored with an LL. D. In 1919, Dr. Ellis was appointed state psychologist in the Department of Institutions and Agencies, New Jersey, and in 1926 was appointed Commissioner—a post he held up to the time of his death. He served on the Advisory Committee on Prisons, Probation and Parole, appointed by the Wickersham Committee on Law Enforcement and Observance; was a member of the New Jersey Juvenile Delinquency Commission; was a past president of the New Jersey Hospital Association, of the American Public Welfare Association, of the American Prison Congress and of the New Jersey Conference of Social Work; was chairman of the Interstate Commission on Social Security of State Governments; and was a Trustee of Hobart College and of the Vineland Training School. These and many other distinctions indicate the scope of public service performed by Dr. Ellis. He will be particularly remembered because of his outstanding contributions to penal and hos-

pital a  
delinqu  
passing  
tarian  
welfa

LEC  
GREGO  
fessor  
Penns  
series  
the la  
York  
Friday  
The  
mocr  
of the  
pital.  
the C  
Wort  
chiatr

TH  
TION.  
of TH  
anno  
social  
that  
been  
Conv

ED  
—TH  
this  
"T  
prom  
inve  
lated  
is a  
facil  
ciati  
need  
fulfi  
step  
exis  
Ass  
P  
Stro  
tary

R  
Vet  
Wa  
out  
men

pital administration, to the rehabilitation of delinquents and to child welfare. In his passing, America has lost a great humanitarian and distinguished administrator of welfare programs.

**LECTURE SERIES AS A MEMORIAL TO DR. GREGORY.**—Dr. Edward A. Strecker, professor of psychiatry at the University of Pennsylvania, delivered the first of an annual series of lectures established in memory of the late Dr. Menas S. Gregory, at the New York University College of Medicine on Friday, April 27, 1945.

The lecture, "Psychiatry Speaks to Democracy," was delivered in the amphitheater of the psychiatric division of Bellevue Hospital. Dr. Donal Sheehan, acting dean of the College of Medicine, and Dr. S. Bernard Wortis, chairman of the department of psychiatry, also appeared on the program.

**THE AMERICAN NEUROLOGICAL ASSOCIATION.**—Dr. Henry Alsop Riley, secretary of The American Neurological Association announces that the 1945 meeting of the Association has been cancelled, due to the fact that permission to hold this meeting has been withheld by the War Committee on Conventions.

**ELECTROSHOCK RESEARCH ASSOCIATION.**—The announcement of the organization of this new association states:

"The purpose of this association is to promote and coordinate research and clinical investigations regarding electroshock and related therapies in mental diseases. There is a need for a flexible organization for the facilitation of such investigations. This association aims to fulfill this need and when the need no longer exists or is more adequately fulfilled through some other organization, steps shall be taken to terminate the separate existence of the Electroshock Research Association."

Paul H. Wilcox, M.D., 502 W. 8th Street, Traverse City, Michigan, is secretary-treasurer. Annual dues are \$5.00.

**REHABILITATION CLINICS.**—*Chicago:* The Veterans Rehabilitation Center, 2449 West Washington Blvd., offers both in-patient and out-patient services. The out-patient department has been operating for some time under

the name Chicago Community Clinic, with Dr. H. H. Nierenberg as superintendent. The in-patient department, operated jointly by the Department of Public Welfare and the Illinois Veterans Service, opened on September 11, 1944, as the Veterans Rehabilitation Center, State of Illinois, with Dr. Alfred Solomon, clinical director, and Dr. Thomas Fentress, associate clinical director. Both services are available to ex-service men in all parts of the state. *San Francisco:* The department of psychiatry of the Mount Zion Hospital of San Francisco announced the opening of a psychiatric rehabilitation clinic on August 1, 1944. Dr. J. Kasanin is director, and Dr. Emanuel Windholz, chief psychiatrist. *Boston:* The out-patient department, Massachusetts General Hospital, with Dr. Erich, clinical director, has made special provision for services to returning servicemen. *Michigan:* The Michigan Society of Neurology and Psychiatry announces the establishment of five clinics for veterans at Ann Arbor, Detroit, Flint, Kalamazoo and Saginaw. These clinics have been organized in co-operation with the Michigan State Hospital Commission and the State Office of Veterans' Affairs. The clinic at Detroit, which began accepting patients for treatment in February, 1945, is financed in the main by the War Chest of Metropolitan Detroit and its quarters have been provided by Harper Hospital. This clinic is in operation three evenings a week and 18 psychiatrists are contributing their services without compensation. Five additional clinics are being planned by the Michigan Society of Neurology and Psychiatry to be located in upper Michigan.

**THE LASKAR AWARD.**—The Award for 1945 will be given for an outstanding contribution to the rehabilitation of the mentally handicapped, it has been announced by the National Committee for Mental Hygiene which is now receiving nominations with supporting data, to be presented to an anonymous jury selected each year for its competence to judge accomplishment in the field chosen.

The award of \$1,000, established in 1944, is made annually in November by the Mary and Albert Laskar Foundation for meritorious service and significant contributions to

promoting mental health and increasing public understanding of mental hygiene.

**ESSAY COMPETITION.**—The Modern Hospital Publishing Company announces a competition for the three best essays on "A Plan for Improving Hospital Treatment of Psychiatric Patients" open to hospital administrators, psychiatrists, psychologists, social workers, nurses, therapists, former patients and any other interested persons. Two or more persons may write a joint essay. The essays shall not exceed 5000 words and must reach the Modern Hospital Publishing Company, 919 North Michigan Avenue, Chicago 11, Illinois, by October 1st, 1945. The judges will be three outstanding authorities drawn from the U. S. Public Health Service, the American Psychiatric Association and the National Committee for Mental Hygiene. The first prize is \$500, the second \$350, and the third, \$150. Details may be secured from the Modern Hospital Publishing Company.

**ROENTGEN ANNIVERSARY.**—Dr. Hugo Stanka of Chicago reminds us that March 27, 1945, was the 100th anniversary of the birth of Konrad Wilhelm Roentgen and the 50th anniversary of the discovery of the x-rays. He writes: "The great revolution which the discovery of the x-ray created in every branch of medicine naturally included the psychiatric field. The first visualization of the sella by Oppenheim in 1895, the encephalography by Dandy in 1918, the cerebral angiography by Egas Moniz in 1928 are the outcomes of Roentgen's work. Roentgen's interest in high voltage currents discharged through a low vacuum tube stimulated Lieben's construction of the amplifier tube which in turn lead to Marconi's discovery and to Hans Berger's electroencephalography of 1926. And last, but not least, the x-ray is indispensable to the mental hospital in the diagnosis of tuberculosis which constitutes one of the great problems in all mental hospitals."

Born in Lennep, Germany, Konrad Roent-

gen received his early education in Holland and his doctor's degree at Zurich. While professor of physics at Würzburg, he made the discovery in 1895 of the rays which have been named after their discoverer. In 1901, he was awarded the Nobel prize for physics. His death occurred in 1923.

Psychiatry recognizes the great debt it owes to Konrad Wilhelm Roentgen.

**RESIDENCIES AT WESTERN STATE (PA.) PSYCHIATRIC INSTITUTE AND CLINIC.**—Six junior and six senior residencies in psychiatry at the Western State Psychiatric Institute and Clinic, Pittsburgh, Pa., are available. Junior positions offer opportunities in clinical work and teaching. Senior positions require previous experience in psychiatry; this work is largely confined to the care and treatment of out-patients. The program for residents has been approved by the Council on American Education and Hospitals of the American Medical Association, and the American Board of Psychiatry and Neurology. Both men and women not subject to military service may be appointed. Later it may be possible to accept applicants liable for military service if deferment can be obtained. The stipend is \$79 per month and maintenance, subject to withholding tax and retirement. Residents must conform to Pennsylvania laws relative to licensure. Pennsylvania residents are given first preference. Further information can be obtained from and application should be made to Grosvenor B. Pearson, M. D., Director. A prospectus of the training program will be sent to applicants on request.

The Institute was originally designated the Western State Psychiatric Hospital, the change of name having been brought about to emphasize the important functions of training, teaching and research; and the operation of the mental health clinic. In cooperation with the University of Pittsburgh, instruction is given to students in medicine, nursing, psychology, social service and dentistry.

#### THE AGGRESSOR.

"Does anyone want to take the world  
And do what he wants with it?  
I do not see how he can succeed.

The world is a sacred vessel,  
Which must not be tampered with or grabbed at.  
To tamper with it is to spoil it,  
And to grab at it is to lose it."—LAO-TZE.

THE P  
En  
M  
Pr

This  
style c  
Studen  
ing it,  
not be  
of Bur  
of this  
are giv  
the au  
these c  
sonalit  
in chil  
the m  
His se  
his lat  
haps a  
is dra  
in get  
who l  
univers  
bachel  
fession  
ness  
Arrog  
diseas  
of an  
after

Th  
inq  
of  
the  
lor  
He  
sen  
sen

Be  
Burt  
one  
treat  
anyw  
nerv  
imag  
acute  
able  
year  
facto  
of a  
to S  
reall  
of E  
of h  
a co  
He  
of p

## BOOK REVIEWS

THE PSYCHIATRY OF ROBERT BURTON. By *Bergen Evans*, in consultation with *George J. Mohr, M.D.* (New York: Columbia University Press, 1944.)

This is a well-written essay. Its lively, witty style could well be a model for scholarly writing. Students of Burton and psychiatry will enjoy reading it, even though, as in my own case, they may not be satisfied altogether with the analysis either of Burton or of his psychiatry. The first 24 pages of this small book (the text runs only to 111 pages) are given over to an examination of the character of the author of the *Anatomy of Melancholy*, whom these critics are inclined to regard as a neurotic personality. Burton, they suggest, was denied affection in childhood, principally by a mother who as lady of the manor was too busy caring for other people. His sense of rejection, they think, probably led in his later college years to "some serious illness, perhaps a long period of depression." This supposition is drawn from the fact that Burton was nine years in getting his B. A. from Oxford. The older Burton who lived out his years as a scholar-recluse in his university is here pictured as a badly adjusted bachelor whose frustrations, personal and professional, are reflected in tendencies towards bitterness, a kind of Hamletesque riddling, and arrogance. Arrogance particularly was the symptom of his disease, and Messrs. Evans and Mohr make much of an anecdote reported by Hearne a hundred years after Burton's death.

The earl of Southampton went into a shop and inquired of the bookseller for Burton's "Anatomy of Melancholly." Mr. Burton sate in a corner of the shop at that time. Says the bookseller, My lord, if you please, I can shew you the author. He did so. Mr. Burton, says the earl, *your servant*. Mr. Southampton, says Burton, *your servant*, and away he went.

Before accepting this pathological picture of Burton, we might, I think, remind ourselves of one thing, and that is that in Burton's mammoth treatise on the nervous disorders there is no section anywhere descriptive of the actual experience of nervous breakdown. One accordingly would not imagine that his supposed college illness was of the acute nervous kind. Furthermore, while one may be able to see in the antic disposition of his later years neurotic symptoms, I think it is equally satisfactory to regard such behaviour as the evidence of a free, intellectual, literary soul. Isn't the rebuff to Southampton right in the best literary tradition, really? Further evidence of the healthy character of Burton's mind lies in the fact that the best part of his psychiatry is his therapy—when he outlines a course of living that is good for body and mind. He had, obviously, a mature sense of the meaning of pleasure, of emotional freedom, of relaxation.

and he lived near enough to Merry England to know what a good time was. His pages on the cure of melancholy would make one wish to be alive in his time, to fish and read and walk and hear music in the style of the seventeenth century—"to take a boat in a pleasant evening." The success of this part of Burton's writing would make one believe that his was first the knowledge of health rather than of disease. Style offers further proof. The pathological parts of the *Anatomy* are written with effort, almost as though this were a Ph.D. thesis. The prose halts and limps. But when Burton touches on normal life, especially in the great digression—when he views the crazy old world with men in love and scholars in misery—when he tunes himself to the human comedy—his style cascades along with all the force and power of healthy modern plumbing.

The second chapter of this study is a literary criticism of the *Anatomy*. But however brilliantly Mr. Evans exhibits the character of Burton's seventeenth-century prose—its quaintness, gusto, grandeur—this chapter is a digression of Burtonian proportions. This section does include most properly an account of the reception of the *Anatomy*, which indicates that only in his own century was Burton avidly read for his psychology. The seventeenth century, Mr. Evans observes with some frequency, was the last age to be "keenly interested in the nature of the mind." Such a comment seems to imply forgetfulness of Locke, Berkeley, Hartley and Hume who belonged to a period here described as "shallow." Was not the eighteenth century the great age for the study of the mind, and not alone the normal mind, as Locke's work on association suggests?

Finally, on page forty-six, we come to the subject of Burton's psychiatry, which is summarized in three chapters with the titles Symptomatology, Etiology, and Therapy (Burton's own divisions were simply Causes, Symptoms, Cure). Now everyone knows that the great difficulty of reading the *Anatomy* is owing to the confusion of the book—a confusion, incidentally, which tells against those who maintain that much personal experience is behind this study of melancholy. One wonders if this same condition prevailed in Burton's sources. No attention is given in this study to Burton's authorities—not even to those medical writers whom he continually cites—Fernelius, Montanus, Montaltus, Laurentius, Hildesheim, Forestus, Fuchsius, Bright. The confusion in Burton's *Anatomy* is owing to the fact that this melancholy of which he writes means to him not only nervous depression, but also simply ordinary low spirits and madness itself wherein both imagination and reason are affected. He is riding three horses at once. Hence, among his symptoms of melancholy, an inordinate love of gain stands side by side with hallucination and



megalomania. In his list of therapies sarsaparilla and confession to a doctor are simultaneously recommended—the former, like coca cola, all right for the unrefreshed, the latter somewhat more to the point for the truly disturbed. Now Messrs. Evans and Mohr have set down Burton's psychiatry largely in the Burtonian order, and to have done so is to preserve confusion three hundred years old.

In those parts of the summary dealing with neurotic depression (which is true melancholy), one finds some things wanting. Burton has described the fears and compulsions that often accompany neurotic depression, in a wonderful passage which one is surprised to find unquoted in this study.

... another dares not go over a bridge, come near a pool, rock, steep hill, lie in a chamber where crossbeams are, for fear he be tempted to hang, drown, or precipitate himself. If he be in a silent auditory, as at a sermon, he is afraid he shall speak aloud at unawares, something undecent, unfit to be said. If he be locked in a close room, he is afraid of being stifled for want of air, and still carries biscuit, aquavita, or some strong waters about him, for fear of deliquiums, or being sick; or if he be in a throng, middle of a church, multitude, where he may not well get out, though he sit at ease, he is so misaffected.

Messrs. Evans and Mohr would have done well, I think, to look more closely than they do into Burton's reflections on the imagination. Burton had, I would guess, an understanding of the common generation of the neurotic's morbid imagination which we could well reflect upon today. I believe he supposed the morbid imagination emerged most frequently in the following way. An individual has a "distorted imagination": that is, he is continually preoccupied with a sexual craving, or he wishes eminence as a scholar, or he loses himself in dreams of romantic beauty, or he dwells with fear upon some event such as a public speech (Burton is excellent on stage fright), or he is consumed with envy of another ("Tis the beginning of hell in this life . . ."). Now be it noted of these thoughts of imaginings, that while they may be called distorted, they cannot be called morbid. But what they do, in Burton's system of melancholy, is upset the chemistry of the body. Thinking in the physiology of the four humours (which these critics condemn), he supposed that such thoughts or imaginings so disturbed the equilibrium of the body as to increase the "cold and black" humour of melancholy. This having happened, nature then takes its course, producing out of itself now and finally the morbid picture of life which constitutes acute depression. Burton is very suggestive here, I think: he is wisely aware that there is no resemblance between the "distorted imagination" which is the cause of melancholy, and the morbid imagination which is its chief symptom. The latter is developed only by the descent, as it were, of the former upon the body. Evans and Mohr have not in their study of Burton penetrated far into the better reaches of his thought. This is true for that best part of their

work—their examination of Burton's sense of society (Marx) and sex (Freud) as causes of neurosis. In discussing the *Anatomy* they are too often distracted by flashy curiosities from an age of devils, witches and astrologers. They neglect the important for the surprising. Their treatment of Burton's psychiatry, as well as being confused, seems also somewhat superficial.

KENNETH MACLEAN, PH. D.,  
University of Toronto.

SYMPTOMS OF VISCERAL DISEASE: A STUDY OF THE VEGETATIVE NERVOUS SYSTEM IN ITS RELATIONSHIP TO CLINICAL MEDICINE. By Francis Marion Pottenger, A.M., M.D., LL.D., F.A.C.P. Sixth edition. (St. Louis: C. V. Mosby Co., 1944.)

The subtitle of Pottenger's book is its best description. This is psychosomatic medicine in the strict sense. The author who is a specialist in diseases of the chest was led to the subject in an attempt to discover why one disease causes different symptoms in various individuals. He finds much of the answer in the analysis of the many factors involved in symptom production. These include a multiplicity of visceral reflexes with different individual thresholds; relative sympathicotonia and parasympathicotonia; ionic intracellular differences; and hypersensitivity phenomena. Principal emphasis is placed upon the vegetative nervous system, which determines the division of the book into four parts: introduction; the vegetative nervous system; its relationship to symptoms of visceral disease; and the innervation of important viscera with the study of viscerogenic reflexes.

Pottenger's point of view is unitarian: his orientation is to the patient rather than to the disease. That he has succeeded in his chief goals is attested by the fact that the present edition is the sixth; on the other hand, one wishes that he might have incorporated more new material.

The content, factual and detailed, naturally does not allow for easy reading. For subsequent editions one would suggest summaries at the chapter ends wherever possible. There is a dearth of newer references in the anatomical and physiological sections, with few if any references later than 1937.

The book which is of unquestionable value to the internist as well as to the neurologist and psychiatrist is highly recommended. It covers a field too often neglected by those who should be most familiar with it.

JOHN L. SIMON, M.D.,  
Bellevue Hospital, New York, N. Y.

THE HANDBOOK OF INDUSTRIAL PSYCHOLOGY. By May Smith. (New York: Philosophical Library, 1944.)

In a short preface the reader is told that he is ignorant as regards industrial psychology (which is probably true and serves him right). There is an historical chapter. Following chapters deal with fatigue, environment, vocational guidance and selection of workers and managers, time and motion

study, and  
vous" is  
discusses  
coming t  
well-bein  
labor w  
psycholog  
methods  
given to  
unfortun

The w  
at the h  
She is in  
individu  
need an  
obviousl  
years as  
the Brit  
Health  
can be r  
it. It is  
down a  
observat  
sented i

THE C  
(T  
Wa  
ver

This  
because  
that the  
he has  
writer.  
so that  
called  
ings ha  
ton U  
sicknes  
states,  
observ  
reflect  
charac  
(p. ix).

The  
absolu  
out, ap  
a psyc  
nifican  
job, v  
state:  
planni  
under  
revela  
Two  
author  
is a s  
presen

"  
bec  
less  
nes

study, and temperaments, among which the "nervous" is particularly dealt with. Another chapter discusses the question "why we work" without coming to a definite answer. Measures of human well-being, that is, absence through sickness and labor wastage (from the viewpoint of the industrial psychologist) and some discussion of investigative methods are the closing chapters. A few pages are given to a well formulated conclusion. There is unfortunately no index.

The writer wants to play cricket with the workers at the benches and the managers at the desks. She is interested in dealing with the worker as an individual human being well aware of emotional need and of emotional atmosphere. The writer obviously has been working in her field for many years as far as can be seen within the frame of the British Medical Research Council's Industrial Health Research Board. This is a solid book that can be recommended. There is nothing fancy about it. It is an amusing mixture of didactic talking-down and common sense, with many interesting observations, some of which are enjoyably presented in almost anecdotal form.

EUGEN KAHN, M. D.,

Yale University School of Medicine.

THE CONCEPT OF DREAD. By Søren Kierkegaard. (Translated with introduction and notes by Walter Lowrie.) (Princeton: Princeton University Press, 1944.)

This book is interesting to the psychiatrist mainly because it inadvertently presents strong evidence that the writer is a psychiatric case himself and yet he has created quite an impression as a significant writer. He has received much scholarly attention, so that at the present time there is a biography called "A Short Life of Kierkegaard" and his writings have the dignity of publication by the Princeton University Press. That the man has mental sickness is frankly admitted by the translator who states, "Sudden transitions of style are everywhere observable in S. K.'s works, and it is likely they reflect the changes of mood in a man who was characterized by blended 'mania' and depression." (p. ix.)

The translator in various places deplores the absolutely unclear style, the neologisms, etc., without, apparently, understanding that he is describing a psychiatric condition. There is an extremely significant statement by the translator about his own job, which raises some doubts as to his mental state: "There was, however, a good deal more planning for the English edition than the human understanding is capable of perceiving without revelation." (p. vi.)

Two representative samples of the style of the author will adequately demonstrate that his book is a schizoid and certainly utterly incomprehensible presentation by a mind which is quite deviate:

"If sin is dealt with in psychology, the mood becomes the persistence of observation, the dauntlessness of the spy, not the ardent flight of seriousness away from and out of sin. The concept

becomes a different one, for sin becomes a state. But sin is not a state. Its idea is that its concept is constantly annulled. As a state (*de potentia*) it is not, whereas *de actu* or *in actu* it is and is again. The mood of psychology would be anti-pathetic curiosity, but the correct mood is the stouthearted opposition of seriousness. The mood of psychology is the dread corresponding to its discovery, and in its dread it delineates sin, while again and again it is alarmed by the sketch it produces. When sin is treated in such a way it becomes the stronger; for psychology is really related to it in a feminine way. Doubtless there is an element of truth in this state of mind, and doubtless it emerges in every man's life more or less when the ethical makes its appearance; but by such treatment sin becomes not what it is but more or less than it is." (p. 14.)

"How sin came into the world every man understands by himself alone; if he would learn it from another, he *co ipso* misunderstands it. The only science which can do a little is psychology, which nevertheless concedes that it does not, that it *can* and *will* not, explain more. If any science could explain it, everything would be brought to confusion. That the man of science ought to forget himself is perfectly true, but for this reason it is so fortunate that sin is not a scientific problem, and therefore the man of science is no more obliged than is any speculator to forget how sin came into the world. If he would do that, if he would magnanimously forget himself, he with his zeal to explain humanity as a whole becomes just as ridiculous as the privy counselor who sacrificed himself to such a degree in leaving his visiting cards on Tom, Dick and Harry, that in doing so he finally forgot his own name. Or else his philosophical enthusiasm makes him so forgetful of himself that he is in need of an honest and sober wedded wife of whom he can ask as the bookseller Soldin<sup>23</sup> asked Rebecca when he also in enthusiastic self-forgetfulness had lost himself in the objectivity of twaddle, 'Rebecca, is it I that am speaking?'" (p. 46.)

These are samples of the thinking and writing which appear throughout the whole book. It is perhaps unfortunate that I am no theologian or philosopher. I might possibly be able to understand what the author has in his mind and what he is seeking to demonstrate. All I can say as a humble psychiatrist is that there is a psychiatry of religion and theology which merits a very large and important book.

ABRAHAM MYERSON, M. D.,  
Boston, Mass.

HYPERTENSION AND HYPERTENSIVE DISEASES. By William Goldring, M. D., and Herbert Chasis, M. D. (New York: The Commonwealth Fund, 1944.)

This book is a valuable exposition of the subject of hypertension. The average physician's conception may be a vague hodge-podge of essential hypertension, arteriosclerosis, kidney disease, glandular

disturbances and eclampsia. The question of definition and the relationship of these conditions to one another, Dr. Goldring and Dr. Chasis, all through their discussions, take successful pains to make clear. This is of great importance when aetiology and treatment are being considered, especially when certain therapeutic measures have risen almost to heroic heights. In any therapeutic problem it is wise to estimate whether sound general principles are applied to the particular one under consideration, and to question frequently whether it is rational and what exactly are the results those measures aim at securing. The authors, following this course, have been led to conservatism in judgment and a most fair analysis of the results of the great amount of work which has been done without leaving the reader in the slightest doubt about conclusions from their own clinical experimentation and observations.

They reiterate, with much justification, that the cause of essential hypertension is still not known and that blood pressure elevated by experimental means, and its relief, indicate a difference in the initiating mechanisms of experimental renal hypertension and human essential hypertension. Therefore the measures suggested as cures, based for instance on the assumption that renal ischaemia is the cause, do not necessarily apply to patients suffering from essential hypertension.

Many forms of suggested treatment have in common a faulty approach to the problem. Thus, thiocyanate pyrogenic agents, renal extracts, vitamin A and sympathectomy, all neglect the primary fact that the elevated blood pressure is merely a manifestation of a fundamental error which is still there despite artificial lowering of the blood pressure. These measures can have no effect on the organic vascular lesions which cause accidents. The functional vaso-constriction is probably due to humoral causes with a superadded neurogenic component.

The discussion of clinical aspects of hypertensive disease and its management is quite clear and brief. The authors point out that the existence of a prehypertensive phase is not established and the tests of hyperreactors vary widely and are unreliable for the purpose of anticipating the future development of essential hypertension. One would criticize their picture of hypertensive encephalopathy. The description does not seem to make sufficiently clear the distinction between the symptoms, signs and course of disease of the cerebral arterioles (which is the essential lesion in essential hypertension) and the symptoms, signs and course of disease of the larger arteries. It is true that the latter is often an accompaniment of, and associated with, essential hypertension (as it is in gout, diabetes, old age and polycythaemia vera, for example), but it is not the encephalopathy solely due to the hypertensive process. The characteristic of this is the minuteness of the lesion at first, going on to a multiplicity of minute lesions later which at first glance imitates in many respects the effect of a larger vessel accident, which might occur with or without hypertension.

The renal function in hypertension was studied extensively by the authors and details are given of methods for determining the rate of glomerular filtration, renal blood flow and the function of the tubules in excretion and reabsorption.

The book is most readable, being written in an exceptionally clear way. There are only 160 pages of text with an additional 60 pages on experimental methods.

It should be read carefully by all who study medicine while they practice its art, as well as by those who teach.

TREVOR OWEN, M.B.,  
University of Toronto.

MENTAL HYGIENE. THE PSYCHOLOGY OF PERSONAL ADJUSTMENT. By D. B. Klein. (New York: Henry Holt and Co., 1944.)

This attractively printed and bound, deceptively small-appearing, 498-page volume presents in clear, simple language a well annotated, accurate résumé of facts, interestingly illustrated by concrete examples and conservatively interpreted. It is to be highly commended to those for whom it was primarily written—students of psychiatry and clinical psychology and the interested public—but can also be read with interest and profit by those with more experience in psychiatry.

In the introduction the author poses the question whether mental illness differs from mental health in kind or only in degree. Implying a preference for the former interpretation he divides his subject into *prophylactic* mental hygiene, concerned with the prevention of mental illness, and *meliorative* mental hygiene, having to do with the promotion of mental health. Part II is devoted to a synoptic review of mental disorders as listed in the official classification approved by the American Psychiatric Association, and Part III to a discussion of means of preventing them. The latter half of the book is given over to Part IV, "Promoting Mental Health." As the author suggests in his preface, Parts II and III may be omitted by those already familiar with or not interested in the details of mental illness, while Parts I and IV form a complete unit, of interest to those concerned with promoting more pleasurable and zestful living for themselves or others.

Some structural disorders, the author states, may be prevented by medical or social prophylaxis (paresis, alcoholic psychoses), but he frankly concedes that we have no statistical proof that any functional disorders can be prevented. It is suggested that mental hygienists have been, and have caused teachers to be, too much concerned with futile attempts to recognize incipient mental illness whereas they might better devote their energies to promoting vigorous mental health.

The first chapter in Part IV emphasizes the generally accepted doctrine that parents should guide their children and gradually lead them to self-guidance, but should neither dominate them nor be dominated by them. "The Dynamics of Conscience" is a particularly interesting chapter explaining the

development of  
righteousness  
about us  
individual  
society in  
and space  
Practical  
for stimu  
be attain  
the inex  
six feet  
into daily  
ment can  
partial g  
lent of  
allows co  
the auth  
system"  
to mental  
disregard  
of econo  
the fami  
to insure  
the book  
go-gettin  
character  
least equ  
Mental  
of our  
of view  
"limit of  
zontal s  
"Even m  
personal  
our app  
clusion  
for men  
fines of  
for the  
ling the  
knowled  
and fro  
minates  
and chr  
play in

REBEL  
(N

The  
of the  
Lindne  
Penite  
siders  
of the  
politic  
technic  
how o  
entire  
and re  
the de  
ality, a



development of guilt feelings and "the glow of righteousness" as reactions to the attitudes of those about us (society). It is pointed out that any individual conscience is the product of the specific society in which the individual lives, located in time and space, and that there is no abstract conscience. Practical suggestions and illustrations are given for stimulating *interest* and *morale*. The goal must be attainable but not too easily—the cross-bar for the inexperienced high jumper must be set neither at six feet nor six inches. A journey should be divided into daily stretches so that a feeling of accomplishment can be secured with the attainment of the *partial* goal. *Repression* is advocated as the equivalent of "self control," but *incomplete* repression allows conflict to continue. Not all will agree with the author's implied condemnation of the "profit system" as responsible for social conditions inimical to mental hygiene for the "masses," but no one can disregard his arguments for the need of correction of economic conditions under which more than half the families of the country lack the minimum income to insure reasonable economic security. Throughout the book the author questions the acceptance of the go-getting extrovert as an ideal and extols the characteristic of contemplative introversion as of at least equal value. The final chapter, "Educating for Mental Hygiene," decries the competitive character of our present school system and states the point of view that while the I.Q. may impose a vertical "limit of educability" it does not restrict the horizontal spread of interests and acquired information. "Even modest accomplishment can be a source of personal gratification and a means of heightening our appreciation of the expert's artistry." In conclusion the author says: "The task of educating for mental health . . . goes far beyond the confines of the traditional curriculum. . . . It calls for the utilization of every agency capable of enabling the child to keep moving from ignorance to knowledge and from knowledge to understanding and from understanding to the wisdom which culminates in service to others. . . . Home and school and church and the Great Society have a part to play in making this kind of education a reality."

CARROLL W. OSGOOD, M. D.,  
The Milwaukee Sanitarium,  
Wauwatosa, Wis.

REBEL WITHOUT A CAUSE. By *Robert Lindner*.  
(New York: Grune and Stratton, 1944.)

The author has written a very interesting report of the hypnoanalysis of a criminal psychopath. Dr. Lindner, who is psychologist to the United States Penitentiary at Lewisburg, Pennsylvania, first considers the problem of criminal psychopathy in terms of the psychological, physiological, sociological, and political aspects. He then discusses the history and techniques of hypnoanalysis and proceeds to show how one subject, by name, Harold, reviews his entire life history under the hypnoanalytic technique, and reveals many of the basic factors concerned with the development of Harold's psychopathic personality, and his career of criminality.

The third part of the book is devoted almost entirely to verbatim samples of 46 hours of free association material given by Harold under hypnoanalysis. Dr. Lindner believes that hypnoanalysis has made it possible to obtain meaningful insight into the psychogenesis of the criminal psychopathic state. He says "for the first time we have been privileged to penetrate beneath the armor which persons of such classification present to the world." This is an overstatement. It has been known for a long time that the development of criminal psychopathy is based on important fundamental early defects in identification and early faulty conditioning to authority, and to unresolved Oedipus situations.

One can only hope that Dr. Lindner's short 46 hour "cure" will persist. His statement that now Harold "knows he was a psychopath; he knows why he was a psychopath; he knows that he needs to be a psychopath no more . . ." is most hopefully put. Insight and "cure" do not always follow one another. However, the hypnoanalytic technique Dr. Lindner describes may be most helpful in shortening the time required to gain vital data from many psychopaths.

This volume is provocative and will help laymen, jurists and penologists to understand the importance of early child-parent relationships in the formation of normal or abnormal personality constellations. Additional documented case studies will be of much value.

Psychiatrists working in the field of medico-legal psychiatry know that psychopathic personalities are socially ill persons. The sooner the law recognizes this and makes provision for treating such sick persons in hospitals by physicians, rather than behind bars by prison guards—the sooner we can hope to rehabilitate some of these persons to live as responsible members of our society.

The book is recommended as an interesting case study achieved under hypnoanalysis. Some of the claims for the method seem over-hopefully expressed and should be checked by time and additional experience.

S. BERNARD WORTIS, M. D.,  
Bellevue Hospital,  
New York, N. Y.

THE PEOPLE OF ALOR. A SOCIAL-PSYCHOLOGICAL STUDY OF AN EAST INDIAN ISLAND. By *Cora DuBois*. With *Analysis* by *Abram Kardiner* and *Emil Oberholzer*. (Minneapolis: The University of Minnesota Press, 1944.)

This interesting book contributes in a somewhat novel way to the study of personality. The author has spent eighteen months "in the field"; this is an exceptionally long time as field studies go. Dr. DuBois states that the inhabitants of Alor, a small island north of Australia, are quite different from the Americans. She wants to know why. In her attempt to answer this question, she gives particular emphasis to cultural variations.

If a psychiatrist were living on Alor, he would soon recognize particular attitudes and other personality traits sharply different from American



customs. He might find it difficult to distinguish between the "normal" and the "abnormal" in the personality make-up. In addition, he would be definitely handicapped as regards therapeutic procedures.

The difference in cultural norms and corresponding personality attitudes constitutes for Dr. DuBois the "modal personality," called by others communal personality components or basic personality structures.

Dr. DuBois devotes the first quarter of her book to a formal description of Alorese culture in order to show the profound contrast to American ways of life and to indicate its peculiar impact on individuals in the various stages of their life cycle. The pertinent chapters are: Infancy; Early Childhood; Late Childhood; Adolescence, Marriage, and Sex; Adults and Institutions; and Some Psychological Aspects of Religion. This formal account of Alorese culture is the most impressive part of the book. It portrays the stresses and strains common to Alorese childhood and youth, and highlights the channelized patterns as related to the developing personality. In this culture, hunger and other privations are so keenly felt even at an early age, that interest in food becomes a chief focus of attention throughout life. There are no sexual inhibitions in early childhood, when sexual intercourse and childbirth are freely observed and masturbation has been introduced as a form of pacification. Women are the primary source of economic support, yet they get little honor and there is certainly no glorification of motherhood. Wife-purchase and polygyny are recognized social patterns. These are only a few examples of the ample material given by the author.

This presentation of standards and demands of the culture provides a strong build-up for eight autobiographies. This reviewer felt that the level of the build-up was never reached again in the book. The autobiographies are sketchy, haphazard and incomplete. Indeed, these very autobiographies make one wonder whether the description of Alorese culture is precise enough; to express it differently, the general account and the individual histories do not click. True, the author warns the reader that the autobiographies are not exactly typical because the well-adjusted individuals apparently are too busy to undergo the ordeal of interview for a life history.

It should be noted that the significance of Dr. Kardiner's comments and analyses that accompany the author's treatment must be doubted. They are apt to confuse the reader and to keep him guessing, and weaken the objectivity of the book. A word of doubt should also be uttered as regards the relevance of the Porteus Maze or Rorschach test and their analysis by Dr. Oberholzer.

A tremendous amount of work has been put into this book by the author. The result is very interesting and remarkably stimulating. It has already been implied that the psychiatrist will do well to get acquainted with it.

LEO W. SIMMONS, PH. D.,  
Yale University.

INSULIN SHOCK THERAPY. Study by the Temporary Commission on State Hospital Problems. (105 East 22nd Street, New York 10, N. Y., 1944.)

We have in this study an exemplary assessment of a relatively new psychiatric therapeutic procedure. The problem is scientifically treated, through a comparative method in which two series of patients, approximately 1000 in number in each group, are utilized. In this assessment of therapy in psychiatry, we have constantly to cope with the difficulty of the subjective element in determining the benefits derived from treatment. Until some relatively simple method of ascertaining the varying degree of psychiatric disability is found in which objective findings predominate, we must guard against false conclusions by measuring the changes attributable to treatment with a variety of criteria. Such an approach has been adopted by the Temporary Commission on State Hospital Problems (New York State). Three different estimations have been made on the comparative groups in an endeavour to evaluate the benefits from insulin treated and routine hospital treated schizophrenics. The most important of these is the ability of the patient to leave hospital; secondly, the level of usefulness which is determined on patients leaving hospital and those continuing to require hospital care; and finally, the rate of relapse and the length of time such patients had been able to remain out of hospital, as well as the period of hospitalization necessary after their readmission.

In an effort to ascertain the relationship of such factors as age, sex, duration of illness, nature of onset, and the period of time in hospital before insulin treatment, the series have been surveyed with the above points in mind. In all assessments the Commission has paid strict attention to the significance dependent upon the number in comparable groups, so that the conclusions drawn have scientific value.

In brief, the Commission's conclusions are that insulin shock therapy facilitates the ability of the patient to leave hospital in comparison with patients receiving routine hospital care in the ratio of approximately 80:59; and this was essentially so in all diagnostic groups regardless of age on admission, sex, length of illness, nature of onset or time which elapsed between release and date of study. The insulin treated patients had a consistently larger proportion of their group at home throughout the entire period of study and, in this group, patients who did return to hospital showed longer remission periods than in the untreated group. In the treated group a larger proportion fell in the higher levels of usefulness.

The saving effected in the use of this therapy is pointed out and recommendations given for a conservative program in providing the medical, nursing and hospital facilities for administration of this treatment.

The practical and scientific method which has been adopted in the report leaves little room for doubt that insulin shock therapy is of real benefit

in the t  
is obser

This  
innume  
chiatric  
their co  
to the t  
treatme

It wo  
to the M  
ing any  
without

It is  
was a r  
therapy

The  
membe  
lated o  
subject  
which

THE I

AN  
Re  
M  
ha  
Y

The  
recent  
in the  
domin  
referen  
Ameri  
the Na

Dr.  
gives  
for co  
during

Am  
ology  
"rese  
periph  
ferenc  
of ne  
veloci  
to the  
great  
the s  
motor  
pulses  
tain l  
the g  
pain-  
Gasse  
roun  
trans  
"W

in the treatment of schizophrenia when proper care is observed in the selection of cases for this therapy.

This is indeed fortunate when we are beset by innumerable reports which evaluate the newer psychiatric therapies with all degrees of variance in their conclusions, many of which are attributable to the unscientific assessment of the results of the treatment.

It would be well in the future that a plan similar to the New York Commission be adopted in evaluating any new therapy, and the presentation of results without this ample assessment be discouraged.

It is noteworthy that the social service follow-up was a major factor in assessing the benefits of this therapy.

The chairman, Homer Folks, and the other members of the Commission are to be congratulated on the efficient manner in which a difficult subject has been treated, and the clear method in which their findings have been presented.

LORNE D. PROCTOR, M. D.,

Toronto Psychiatric Hospital.

THE 1944 YEAR BOOK OF NEUROLOGY, PSYCHIATRY AND ENDOCRINOLOGY. Edited by *Hans H. Reese, M. D.* (Neurology), *Nolan D. C. Lewis, M. D.* (Psychiatry) and *Elmer L. Sevringhaus, M. D.* (Endocrinology). (Chicago: The Year Book Publishers, Inc. 1945.)

The plan of the 1944 Year Book follows that of recent years. Again the contributions reported are in the main from English speaking countries, predominantly from the United States, with a few references to periodical publications in South America, Switzerland, Russia and Palestine—from the Nazi-blighted countries, nothing.

Dr. Reese prefacing the section on neurology gives credit to his associate, Dr. Mabel G. Masten, for compiling a considerable part of this section during his absence on a military mission in Europe.

Among outstanding developments in neurophysiology is the work of Erlanger and Gasser, whose "researches in the dynamic mechanism of the peripheral nerves made it possible to show differences in action of individual fibers (three kinds of nerve fibers could be established) and in the velocity with which impulses are carried in relation to the size of axons and to the kind of fibers. The greater the diameter of the whole axon, the greater the speed of conduction. The largest fibers are motor, are most easily stimulated and carry impulses with greatest speed. The sensory roots contain large, medium and fine fibers and conduct in the given order sensations of touch, pressure and pain-temperature. The work of Erlanger and Gasser has dispelled much of the mystery surrounding the neuromuscular mechanism of synaptic transmission."

"We anticipate having more complete knowledge

on the care of peripheral nerve injuries and look forward to more exact methods of determining the functional state of injured nerves. Pollack's duration of strength of stimulus offers a more satisfactory means of measuring the integrity of the conducting nerve than chronaxia and reaction of degeneration. There has been a marked impetus in the study of brain injuries and the underlying physiologic basis for such phenomena as concussion. The work of A. Earl Walker at the University of Chicago merits special attention in this regard."

In the section on psychiatry Dr. Lewis again sounds a note of warning on the indiscriminate application of various shock methods of treatment "in cases in which they are not indicated, on the advice of inadequately informed workers in the field of neuropsychiatry."

In this section child psychiatry receives considerable space, and the enormous output in military psychiatry is represented by a good selection of material (38 pages).

Dr. Sevringhaus emphasizes the applied physiology aspect of endocrinology. "What the clinician needs to do is to identify a physiologic process, measure the intensity of its action and the duration of the effect, then seek means to bring these time and intensity factors under his professional control. . . . One may mention the case of diabetes insipidus, in which the posterior pituitary provides a decreased amount of a hormone necessary to allow the renal tubules to retain water and in which the dose of pituitary extract must be administered in stated small doses to avoid the Scylla of deficiency or the Charybdis of intestinal cramps. The dose needs to be repeated in periods of hours because of short time of action, unless one uses some of the more recent slow acting solutions to delay the absorption of the entire dose. Another illustration might be the dramatic new agent, thiouracil, employed in the treatment of thyrotoxicosis. The efficacy of this drug depends on its ability to interfere with the combination of iodine and the rest of the thyroxine molecule, thereby stopping the production of the thyroid hormone. The time period during which the clinician must watch for clinical results depends on the amount of the thyroid hormone previously present in the gland and the body tissues in general. There is no advantage to large or small doses after an adequate dose has once been demonstrated, and the physician must wait for results to appear, depending on an understanding of these quantitative features of thyroid physiology."

Bringing together in one volume these three interdependent fields, as has been done in recent years, greatly enhances the value of the Year Book dealing with this wide area in medicine. The Year Books extending through the years constitute the most valuable reference library we have in this field.

C. B. F.

## IN MEMORIAM

HENRY IRWIN KLOPP

1870-1945

Dr. Henry Irwin Klopp passed away at 7.30 in the evening of March 7, 1945 at the Hahnemann Hospital in Philadelphia, Pennsylvania. He had recently celebrated his 75th birthday, having been born at Stouchsburg, Pennsylvania on January 1, 1870. Although known to be seriously ill and in the hospital since February 2, yet his death came as a shock to his family, friends and associates, an occasion of great sorrow.

Dr. Klopp attended the Palatinate College (later Albright College) at Myerstown, Pennsylvania, and graduated from the Hahnemann Medical College in Philadelphia in 1894. After internship at the Reading Homeopathic Hospital and receiving his Pennsylvania license, he joined the staff of the Westboro (Massachusetts) State Hospital where he served from 1895 to 1912, having been licensed in Massachusetts in 1895.

In 1912, he became the first superintendent of the Allentown State Hospital. He had the privilege of developing the hospital almost from the beginning and admitted the first patients, a group of 50 transfers from the Norristown State Hospital on October 3, 1912. He later developed the large farm colonies at Weaversville which continue under the control and direction of the parent institution. He retired and became superintendent emeritus on July 1, 1942.

During his administration of the Allentown State Hospital, he instituted many important activities. Included were facilities for occupational therapy, various types of physical therapy, music therapy, general medical and surgical activities, a pathological and research laboratory, special departments for the tuberculous patients, the first special building for the observation and treatment of children showing signs of maladjustment, or severe nervous and mental difficulties. He established mental clinics throughout his hospital district and developed contacts with the schools and juvenile courts.

His outstanding success was recognized on many occasions and by many groups. From 1912 until shortly after his retirement from the Allentown State Hospital, he was a member of the faculty of the Hahnemann Medical School, serving first as associate professor of psychiatry, then as clinical professor and finally as professor of mental diseases, an appointment he held since 1935.

Muhlenberg College awarded him the coveted doctor of science degree in 1927. In 1937, he became a diplomate of the American Board of Psychiatry and Neurology. He was a past president of the Pennsylvania State Homeopathic Society and the Pennsylvania Psychiatric Society. He was a fellow of The American Psychiatric Association, serving on the council and as a member of the various committees. He contributed articles to the American Journal of Psychiatry and other professional publications.

He was active on the boards of the Community Chest, Association for the Blind, Lehigh Valley Child Guidance Clinic, the penal affairs committee of the Public Charities Association of Pennsylvania and other organizations. He continued to be interested in many of these during his retirement.

He also was affiliated with the Contemporary Club of Allentown, The Torch Club of Lehigh Valley, Jordan Lodge F. and A. M., and the Lehigh Consistory. He was a member of the Dutch Reformed Church in Lebanon County.

As a mental hospital administrator, he was a positive leader, characterized by tireless energy, alert to new ideas and methods but safely conservative, never overwhelmed by such innovations as later proved to be passing fancies. He was constantly in touch with all hospital activities, interested in the instruction of staff members and the heads of departments, and their advancement.

He was a stimulating and practical teacher, having arranged for his Hahnemann students

to spend a sufficient time at the hospital for study of the patients, participation in their examination and the observation of the methods of treatment.

The members of The American Psychiatric Association will recall him as a genial companion, a distinguished colleague whose papers and discussions at the various meetings were constructive contributions.

Surviving him are a daughter, Dorothy E., wife of Robert Bender of Newton, Upper Falls, Massachusetts; a grandson Russell Bender, age nine; and a sister, Minnie O. Klopp of Sheridan, Pennsylvania. His wife, formerly Elizabeth Ladora Stump, died June 9, 1919. A son, Russell I. Klopp, died September 2, 1923.

WILLIAM C. SANDY.

### REBEKAH WRIGHT

1873-1945

Rebekah Wright saw her seventy-second birthday on March 24, 1945, and died, while actively engaged in teaching hydrotherapy, on the 29th of March of this year.

On the 1st of February Dr. Wright joined the staff of the Connecticut State Hospital as consulting hydrologist, and from that date until her death devoted her entire time to the training of hydrotherapists, and assisted me in working out future plans for a modern hydrotherapy suite. The day preceding her death I had the privilege of discussing future plans with her for about an hour, during which she showed the same keen interest and enthusiasm in her work, which I have known for the past twenty-four years. She told of her ideal plans for teaching and organizing hydrotherapy centers in the United States, where the work she so ably started and championed could be perpetuated. Even up to the last she was planning on meeting with the director of the Baruch Committee on Physical Medicine, to discuss the publication of a monograph on hydrotherapy in relation to psychiatry.

The name "Wright" was a household word to all in psychiatry, and her monumental work, "Hydrotherapy in Psychiatric Hospitals," will go down in medical history, doing honor to its author.

Dr. Wright was born in Bureau County, Illinois. She received a degree from Battle Creek College in Michigan in 1892, and because of her interest in human beings, entered Northwestern University in Chicago, Illinois, from which she received her degree of doctor of medicine in 1896. Following her graduation from medical school, she spent a year interning at Wesley Hospital in Chi-

cago. She next turned her attention to psychiatry, and was appointed to the medical staff at St. Elizabeths Hospital in Washington, D. C., where she remained until 1906. Having gained a better understanding of human nature, she entered private practice in Des Moines, Iowa, but remained only a short while because of her interest in hydrotherapy and the desire to learn more about this specialty. She then went to California, where she received a special course of training in hydrotherapy under the late Dr. Simon Baruch, "the father of hydrotherapy in America."

From 1907 on she devoted all of her time and efforts to hydrotherapy, with particular emphasis on its application to persons afflicted with mental illness. In this field she won recognition as a specialist, becoming famous throughout the United States and Canada. Many states in the Union retained her as a consultant in hydrology, because she was one of the few physicians in the country who had made so thorough and extensive studies of the application of hydrotherapeutic procedures. Her services were in constant demand because of her exceptional ability in teaching physicians and training personnel who later became qualified as expert technicians. For many years she served as consulting hydrologist for the Massachusetts Department of Mental Health, in which capacity she planned and organized hydrotherapy departments for all hospitals under its control.

One of her latest achievements was the preparation of a cinema entitled, "Applied Hydrotherapy." The techniques depicted in this work are of inestimable value to physi-



cians who lecture on the physiological effects of heat, cold, revulsion, neutral baths, and friction, and have saved many hours rehearsal for demonstration of the hydrotherapists' time.

She had a gift for friendship. She was loyal to her friends, and had sincere, humanitarian interest in the mentally ill, whom she was forever striving to help. She never lost friendships with the hundreds of young men and women whom she personally trained as hydrotherapists.

She loved life, and got much out of it, for she was guided by the Golden Rule. Her personality was a dominant example to all who knew her. She was energetic, ever optimistic, and had the faculty of being persistent in what she believed was right. She was dynamic, had the courage of her convictions and the spirit of a pioneer. She was a clear thinker, always said what she thought

and meant what she said. She loved nature, had a profound interest in music and art, and enjoyed the finer things in life.

Dr. Wright was honored by many scientific societies, and was in constant demand as a lecturer and teacher. She was a Fellow of the American Psychiatric Association and the American Academy of Physical Medicine, and held membership in the New England Society of Psychiatry, Massachusetts Psychiatric Society, Massachusetts Medical Society, New England Society of Physical Medicine and International Society of Medical Hydrology.

She belonged to the great period of the making of hydrotherapy, and was numbered among the builders who have laid the cornerstone. A truly great woman, after devoting her life to a great cause, has entered the land of everlasting peace.

EDGAR C. YERBURY.

## ANNUAL INDEX

This periodical is indexed alphabetically under both Subject (Part 1) and Author (Part 2) entries. In searching for a specific article the Author entry should be consulted if the name of the author is known since the complete bibliographic reference is to be found after the author's name only. When there are two or more authors for an article the complete entry as shown appears only under the name of the first author. Under the name of each of the joint authors a cross reference is made to the original author entry.

The titles under the subject entries are often inverted or shortened. The Subject index covers original articles, biographic material, book reviews, obituaries, editorial comments and news items.

R. indicates a book review; the title of the book is followed by the author's name, and is also listed by author under Book Reviews. Ed. indicates an editorial comment or news item. Illust. indicates an illustration.

Memorial notices appear under the heading Obituaries and under the names of individuals.

Entries concerning all meetings of scientific bodies will be listed under Association meetings.

## SUBJECT INDEX

### PART 1

#### A

##### Administration:

###### Government:

New York State Hospital System—Care of the Mentally Ill in New York; William L. Russell, 184, Sept. '44.

Review of Psychiatric Progress, 1944; Winfred Overholser, 541, Jan. '45.

##### Age Groups:

Age and EEG. in Neuropsychiatric Patients; Milton Greenblatt, 82, July '44.

Air Force: See also Army, Army Air Force, Merchant Marine, Military Group Psychotherapy, Military Psychiatry, Navy, Post-Traumatic Neuroses, Rehabilitation Therapy, War Neuroses.

##### Alcohol:

Neurosis and Alcohol, Experimental Study; Jules H. Masserman, 389, Nov. '44.

Review of Psychiatric Progress, 1944; Karl M. Bowman, 525, Jan. '45.

##### Alcoholism:

Acute Alcoholism Treated with Insulin; Sidney J. Tillim, 396, Nov. '44.

Conditioned Aversion Treatment in Chronic Alcoholism, J. V. Edlin, R. H. Johnson, P. Hletko, and Gert Heilbrunn, 806, May '45.

##### American Psychiatric Association:

###### Philadelphia:

100th annual meeting, 1944.

Centennial meeting, 120, July '44; 125, July '44.

President's Letter, 119, July '44; 411, Nov. '44.

Proceedings, 216, Sept. '44; 553, Jan. '45.

Reports of Committees, 240, Sept. '44.

Reports of Special Committees, 263, Sept. '44.

###### Chicago:

101st annual meeting, 1945.

Program, 412, Nov. '44.

Report of Nominating Committee, 562, Jan. '45.

Annual Meeting Cancelled, 704, Mar. '45.

History of the Section on Convulsive Disorders; G. Kirby Collier, 468, Jan. '45.

*Anales Neuro-Psiquiatricos del Frenocomio de Mujeres de Bogota*; Editor Kelly (R.), 708, Mar. '45.

##### Anxiety States:

Observations on Patterns of Anxiety; D. Ewen Cameron, 36, July '44.

*Aquinas, Thomas (Tomas de Aquino y la Psicopatologia)*; E. Eduardo Krapf (R.), 566, Jan. '45.

Army: See also Air Force, Army Air Force, Merchant Marine, Military Group Psychotherapy, Military Psychiatry, Navy, Post-Traumatic Neuroses, Rehabilitation Therapy, War Neuroses.

Adjustment of Soldiers to Army and to Civilian Life; G. B. Chisholm, 300, Nov. '44.

British Army, Psychiatry in the; J. R. Rees, 20, July '44.

Clinical Psychologists in the Army (Ed.), 130, July '44.

Epileptic in the Army; Ephraim Roseman, 349, Nov. '44.

Induction Psychiatry, A Review; H. H. Goldstein, and W. Rottersman, 210, Sept. '44.

Mental Hygiene Program for the Military Hospital; Louis S. Lipschutz, and Rebecca Rosen, 614, Mar. '45.

Officer Selection, Psychiatric Aspects of; William A. Hawk, 655, Mar. '45.

Preventive Psychiatry with Combat Troops; Herbert X. Spiegel, 310, Nov. '44.

Psychiatric Casualties in a General Hospital Overseas; Henry M. Fox, and Nathan Schnaper, 316, Nov. '44.

Psychiatric Problems on a South Pacific Island; Samuel Burack, 606, Mar. '45.

Psychoneuroses, Combat-Anxiety Type; Robert B. McElroy, 517, Jan. '45.

Rehabilitating Program in Army Hospitals; Walter E. Barton, 608, Mar. '45.

Screening, Neuropsychiatric, of Overseas Replacements at an Overseas Replacement Center; Martin A. Berezin, 336, Nov. '44.

Startle Neurosis; Frederick C. Thorne, 105, July '44.

Treatment Activities in War Psychiatry; Lauren H. Smith, 303, Nov. '44.

Army Air Force: See also Air Force, Army, Merchant Marine, Military Group Psycho-

- therapy Military Psychiatry, Navy, Post-Traumatic Neuroses, Rehabilitation Therapy, War Neuroses.
- Aftermath of Operational Fatigue in Combat Aircrews; Milton L. Miller, 325, Nov. '44.
- War Neuroses in Flying Personnel Overseas and after return to the U. S. A.; Roy Grinker, and John P. Spiegel, 619, Mar. '45.
- Arteriosclerosis:
- Cerebrovascular Disease and Psychiatric Treatment; R. W. Waggoner, and N. Malamud, 400, Nov. '44.
- Artificial Fever, Use of Demerol in; Thomas J. Heldt, Nicholas P. Dallis, and William J. O'Connell, 789, May '45.
- Aschaffenburg, Gustav, 1866-1944 (O.), 413, Nov. '44; 427, Nov. '44; Photograph 427, Nov. '44.
- Association Meetings:
- American Neurological Association meeting cancelled, 835, May '45.
- American Psychiatric Association: *See* American Psychiatric Association.
- Association for Research in Nervous and Mental Disease, 274, Sept. '44; 704, Mar. '45.
- Chicago Postgraduate Assembly on Nervous and Mental Diseases and War, 275, Sept. '44.
- Cuban Society of Neurology and Psychiatry, 273, Sept. '44.
- General Semantics, Second American Congress, 136, July '44.
- Illinois Psychiatric Society, 129, July '44.
- International League against Epilepsy, 127, July '44.
- Michigan Society of Neurology and Psychiatry, 415, Nov. '44.
- Mooseheart Laboratory for Child Research, 560, Jan. '45.
- National Committee for Mental Hygiene, 556, Jan. '45; 558, Jan. '45.
- New York Psychoanalytic Institute, 274, Sept. '44.
- North Pacific Society of Neurology and Psychiatry, 563, Jan. '45.
- Pennsylvania Psychiatric Society, 414, Nov. '44.
- Wartime Public Health Conference, Second, 275, Sept. '44.
- Audio-Visual Programs in Schools (Ed.), 560, Jan. '45.
- B
- Behavior Problems: *See* also Child Psychiatry.
- EEG in Behavior Problem Children; Charles I. Solomon, Warren T. Brown, and Max Deutscher, 51, July '44.
- Neurotic Traits and EEG in Children with Behavior Disorders; Joseph H. Michaels, and Lazarus Secunda, 407, Nov. '44.
- Biochemistry:
- Basal Metabolism, Fasting Blood Sugar, Glucose Tolerance and Sella Turcica in Homosexuals; William R. Rosanoff, and Francis E. Murphy, 97, July '44.
- Cerebral Metabolism in Patients with Depression; Harold E. Himwich, D. Ewen Cameron, Edmund Homburger, and Fred Feldman, 453, Jan. '45.
- Review of Psychiatric Progress, 1944; John C. Whitehorn, 533, Jan. '45.
- Biographical Sketches: *See* also Historical.
- Bixler, Elizabeth S. (Ed.), 271, Sept. '44.
- Goodrich, Annie W. (Ed.), 271, Sept. '44.
- Mitchell, Weir; Margaret C.-L. Gildea, and Edwin F. Gildea, 460, Jan. '45.
- Ray, Isaac; A. Warren Stearns, 573, Mar. '45; Photograph 583, Mar. '45.
- Riggs, Austin Fox; Margaret C.-L. Gildea, and Edwin F. Gildea, 460, Jan. '45.
- Rush, Benjamin, The Psychiatry of; Richard H. Shryock, 429, Jan. '45.
- Rush, Benjamin, Revaluation of; Adolf Meyer, 433, Jan. '45.
- Salmon, Thomas; Margaret C.-L. Gildea, and Edwin F. Gildea, 460, Jan. '45.
- Taylor, Effie J. (Ed.), 271, Sept. '44.
- Bixler, Elizabeth S. (Ed.), 271, Sept. '44.
- Blood Supply of the Visual Pathway*; Calvin M. Kershner (R.), 423, Nov. '44.
- Bonhoeffer, Karl, Death of (Ed.), 127, July '44.
- Book Reviews:*
- Ackerman, Lloyd; Health and Hygiene, 283, Sept. '44.
- Baker, A. B.; An Outline of Neuropathology (3rd ed.), 281, Sept. '44.
- Beck, Samuel J., Rorschach's Test, 709, Mar. '45.
- Bell, Paul H.: *See* MacLeod, Colin, jt. auth.
- Brill, A. A.; Freud's Contribution to Psychiatry, 712, Mar. '45.
- Carr-Saunders, A. M., Mannheim, Hermann, and Rhodes, E. C.; Young Offenders, 567, Jan. '45.
- Chasis, William: *See* Goldring, William, jt. auth.
- Delgado, Honorio; La Personalidad y el Cáncer, 708, Mar. '45.
- Doherty, William Brown, and Runes, Dagobert D.; Rehabilitation of the War Injured, 417, Nov. '44.
- Doshay, Lewis J.; The Boy Sex Offender and His Later Career, 424, Nov. '44.
- DuBois, Cora; The People of Alor, 841, May '45.
- Evans, Bergen; The Psychiatry of Robert Burton, 837, May '45.
- Folsom, Joseph Kirk; The Family and Democratic Society, 421, Nov. '44.
- Freeman, Walter, Watts, James W., and Hunt, Thelma; Psychosurgery, 280, Sept. '44.
- Fulton, John Farquhar; Physiology of the Nervous System, 282, Sept. '44.
- Gage, Edith B.: *See* Karnosh, Louis J., jt. auth.
- Gantt, W. Horsley; Experimental Basis for Neurotic Behavior, 565, Jan. '45.
- Goldring, William, and Chasis, Herbert; Hypertension and Hypertensive States, 839, May '45.
- Griffin, Eldon; Clinching the Victory, 134, July '44.
- Hay, Charles K.: *See* Hoyer, Louis P., jt. auth.
- Heal, Josephine B., et al; Encephalitis, A Clinical Study, 420, Nov. '44.
- Hoyer, Louis P., and Hay, Charles K.; Services of the Orthopedically Handicapped, 422, Nov. '44.
- Hunt, Thelma: *See* Freeman, Walter, jt. auth.

- Jensen, Deborah MacLurg; *An Introduction to Sociology and Social Problems*, 710, Mar. '45.
- Karnosh, Louis J., and Gage, Edith B.; *Psychiatry for Nurses*, 424, Nov. '44.
- Kasanin, J. S.; *Language and Thought in Schizophrenia*, 711, Mar. '45.
- Kelly, Editor; *Anales Neuro-Psiquiatricos del Frenocomio de Mujeres de Bogota*, 708, Mar. '45.
- Kendig, M.; *Papers from Second American Congress on General Semantics*, 136, July '44.
- Kershner, Calvin M.; *Blood Supply of the Visual Pathway*, 423, Nov. '44.
- Kierkegaard, Soren; *The Concept of Dread*, 839, May '45.
- Klein, D. B.; *Mental Hygiene, The Psychology of Personal Adjustment*, 840, May '45.
- Kraines, S. H., and Thetford, E. S.; *Managing Your Mind*, 134, July '44.
- Krapf, E. Eduardo; *Tomas de Aquino y la Psicopatologia*, 566, Jan. '45.
- Lewis, Nolan D. C.; *See* Reese, Hans H., jt. auth.
- Lindner, Robert M.; *Rebel Without a Cause*, 846, May '45.
- Livingstone, W. K.; *Pain Mechanism*, 567, Jan. '45.
- Lopez, E. Mira y; *Manual de Psiquiatria*, 419, Nov. '44.
- Low, Abraham A.; 1. *Historical Development of Recovery's Self-Help Project*. 2. *Group Psychotherapy*. 3. *Lectures to Relatives of Former Patients*, 133, July '44.
- MacLeod, Colin M., Bell, Paul H., et al; *Sulfonamides*, 134, July '44.
- McGraw, Myrtle B.; *The Neuromuscular Maturation of the Human Infant*, 708, Mar. '45.
- Machover, Solomon; *Cultural and Racial Variations in Patterns of Intellect*, 424, Nov. '44.
- Mackintosh, James M.; *The War and Mental Health in England*, 284, Sept. '44.
- Maisel, Albert Q.; *The Wounded Get Back*, 569, Jan. '45.
- Mannheim, Hermann; *See* Carr-Saunders, A. M., jt. auth.
- Masserman, Jules H.; *Behavior and Neurosis*, 570, Jan. '45.
- Mira, Emilio; *Psychiatry in War*, 132, July '44.
- Oberndorf, Clarence P.; *The Psychiatric Novels of Oliver Wendell Holmes*, 417, Nov. '44.
- O'Hara, Frank J.; *Psychology and the Nurse*, 135, July '44.
- Pottenger, Francis Marion; *Symptoms of Visceral Disease*, 838, May '45.
- Pratt, George K.; *Soldier to Civilian*, 707, Mar. '45.
- Reese, Hans H., Lewis, Nolan D. C., and Sevringhaus, Elmer L.; *The 1944 Year Book of Neurology, Psychiatry and Endocrinology*, 843, May '45.
- Rhodes, E. C.; *See* Carr-Saunders, A. M., jt. auth.
- Ribble, Margaret A.; *The Rights of Infants*, 422, Nov. '44.
- Runes, Dagobert D.; *See* Doherty, William Brown, jt. auth.
- Sachs, Hans; *Freud, Master and Friend*, 425, Nov. '44.
- Salter, Andrew; *What is Hypnosis*, 568, Jan. '45.
- Selling, Lowell S.; *Synopsis of Neuropsychiatry*, 277, Nov. '44.
- Sevringhaus, Elmer L.; *See* Reese, Hans H., jt. auth.
- Silva, A. Pacheco e; *Conferencias do Curso de Aperfeicoamento de Psiquiatria de Guerra*, 568, Jan. '45.
- Sladen, Frank J.; *Psychiatry and the War*, 423, Nov. '44.
- Smith, May; *Handbook of Industrial Psychology*, 838, May '45.
- Solomon, Harry C., and Yakovlev, Paul I.; *Manual of Military Neuropsychiatry*, 571, Jan. '45.
- Sterba, Richard; *Introduction to the Psychoanalytic Theory of the Libido*, 278, Sept. '44.
- Strecker, Edward A.; *Fundamentals of Psychiatry*, 137, July '44.
- Taliaferro, William H.; *Medicine and the War*, 283, Sept. '44.
- Temporary Commission on State Hospital Problems; *Insulin Shock Therapy*, 842, May '45.
- Thetford, E. S.; *See* Kraines, S. H., jt. auth.
- Tredgold, A. F.; *Manual of Psychological Medicine*, 707, Mar. '45.
- Uchoa, Darcy de Mendonca; *Sobre a Psicopatologia do Incesto*, 425, Nov. '44.
- von Witzleben, Harry D.; *Methods of Treatment in Postencephalitic Parkinsonism*, 279, Sept. '44.
- Watts, James W.; *See* Freeman, Walter, jt. auth.
- Wechsler, Israel S.; *Textbook of Clinical Neurology* (5th ed.), 280, Sept. '44.
- Wertham, Frederick; *Dark Legend. A Study in Murder*, 281, Sept. '44.
- Winn, Ralph B.; *Encyclopedia of Child Guidance*, 709, Mar. '45.
- Wolff, Harold G.; *See* Wolff, Stewart, jt. auth.
- Wolff, Stewart, and Wolff, Harold G.; *Human Gastric Function*, 133, July '44.
- Yakovlev, Paul; *See* Solomon, Harry C., jt. auth.
- Brain Injury:**
- EEG Studies in Head Injury; Robert S. Dow, George Ulett, and John Raaf, 174, Sept., '44.
- Brill, Dr. A. A., Honored (Ed.), 416, Nov. '44.
- Britain, *Psychiatric Investigation in*; Aubrey Lewis, 486, Jan. '45.
- British Army; *See* Army.
- Burr, Charles Walts, 1861-1944 (O.), 138, July '44; *Photograph*, 138, July '44.
- Burton, Robert, *Psychiatry of*; Bergen Evans, (R.) 837, May '45.
- Butler Hospital Centennial (Ed.), 121; July '44; 276, Sept. '44.
- C
- Cardiac Changes in Intense Emotion (Case Report); Thomas A. Loftus, Harry Gold, and Oskar Diethelm, 697, Mar. '45.
- Case Reports:**
- Atypical Post-Metrazol Status Epilepticus; J. A. Cummins, 117, July '44.



- Cardiac Changes in Intense Emotion; Thomas A. Loftus, Harry Gold, and Oskar Diethelm, 697, Mar. '45.
- Prolonged Insulin Shock; Walter Goldfarb, J. M. Laughlin, and H. E. Kiene, 827, May '45.
- Centenary Volume Honored by American Institute of Graphic Arts (Ed.), 129, July '44.
- Cerebral Metabolism in Patients with Depression; Harold E. Himwich, D. Ewen Cameron, Edmund Homburger, and Fred Feldman, 453, Jan. '45.
- Cerebrospinal Fluid Pressure, Effect of Electric Shock Therapy on; James S. L. Jacobs, 110, July '44.
- Cerebrovascular Disease and Psychiatric Treatment; R. W. Waggoner, and N. Malamud, 400, Nov. '44.
- Chicago, Psychiatric Facilities and Surroundings; Peter Bassoe, 690, Mar. '45.
- Child Guidance, *Encyclopedia of*; Ralph B. Winn (R.), 709, Mar. '45.
- Child Psychiatry:  
*Electroencephalography*:  
 EEG in Behavior Problem Children; Charles I. Solomon, Warren T. Brown, and Max Deutscher, 51, July '44.  
 Neurotic Traits and EEG in Children with Behavior Disorder; Joseph J. Michaels, and Lazarus Secunda, 407, Nov. '44.  
 Fellowships in Child Psychiatry, National Committee for Mental Hygiene (Ed.), 275, Nov. '44.  
 Foundation for Child and Nervous Child Help Inc. (Ed.), 562, Jan. '45.
- Historical*:  
 Psychiatry for Children, A Brief History of Developments; Lawson G. Lowrey, 375, Nov. '44.  
 Review of Psychiatric Progress, 1944; Leo Kan-ner, 528, Jan. '45.  
 The Psychiatrist Looks at the Child Psychiatrist; Karl M. Bowman, 23, July '44.
- Civil Service Medical Opportunities (Ed.), 561, Jan. '45.
- Clinching the Victory*; Eldon Griffin (R.), 134, July '44.
- Clinical Psychiatry:  
 Review of Psychiatric Progress, 1944; Nolan D. C. Lewis, 521, Jan. '45.
- Coast Guard (U. S.) Academy, Medico-Psychological Program at; Robert H. Felix, Dale C. Cameron, Joseph M. Bobbitt, and Sidney H. Newman, 635, Mar. '45.
- College Students, Follow Up Study of 93 Students with Epilepsy; Leonard E. Himler, and Theophile Raphael, 760, May '45.
- Color Blindness in the Psychoses; Harold M. Kaplan, and Roland J. Lynch, 675, Mar. '45.
- Concept of Dread*; Soren Kierkegaard (R.), 839, May '45.
- Conferencias do Curso de Aperfeicoamento de Psiquiatria de Guerra*; A. C. Pacheco e. Silva (R.), 568, Jan. '45.
- Convulsions, Spontaneous, following Convulsive Shock Therapy; Bernard L. Pacella, and S. Eugene Barrera, 783, May '45.
- Convulsive Disorders:  
*Epilepsy*:  
 College Students with Epilepsy, Follow Up Study; Leonard E. Himler, and Theophile Raphael, 760, May '45.  
 Corpus Callosum, IV. Diagnostic Dyspraxia in Epileptics following Partial and Complete Section of the Corpus Callosum; Andrew J. Akelaitis, 594, Mar. '45.  
 Epileptic in the Army, 349, Nov. '44.  
 Experimental "Epilepsy" in the Baboon and Epileptiform Seizures in the Dog, Rabbit and Guinea Pig; N. Kopeloff, S. E. Barrera, and L. M. Kopeloff, 201, Sept. '44.  
 Relationship of Mental Deficiencies, Convulsive Disorders, Avitaminosis and Alteration of Electro-Neuronal Potential; George H. Cook, 166, Sept. '44.  
 Twins, Intelligence of Normal and Epileptic Twins; William G. Lennox, and A. L. Collins, 764, May '45.  
 X-Ray in Local Atrophic Brain Lesions; Arthur E. Childe, and Wilder Penfield, 30, July '44.
- History of the Section on Convulsive Disorders, American Psychiatric Association; G. Kirby Collier, 468, Jan. '45.
- Convulsive Shock Therapy; *See also* Electro-shock Therapy, Insulin Shock Therapy, Metrazol Shock Therapy.
- Correlation of Sodium Amytal Narcosis and Convulsive Shock Treatment; Robert A. Clark, Rodney H. Kiefer, and Martin J. Gerson, 801, May '45.
- Spontaneous Convulsions following Convulsive Shock Therapy; Bernard L. Pacella, and S. Eugene Barrera, 783, May '45.
- Corpus Callosum, IV. Diagnostic Dyspraxia in Epileptics following Partial and Complete Section of the Corpus Callosum; Andrew J. Akelaitis, 594, Mar. '45.
- Correction, Benjamin Rush, Portrait (Ed.), 127, July '44.
- Correspondence:  
 Bond, Earl D., 410, Nov. '44.  
 Bryan, Alice I., 410, Nov. '44.  
 Cleckley, Harvey M., 700, Mar. '45.  
 Fernandes, Jose A., 828, May '45.  
 Kluge, Nancy, 700, Mar. '45.  
 Newell, Nancy, 701, Mar. '45.  
 O'Brien, John D., 699, Mar. '45.  
 Yerbury, Edgar C., 701, Mar. '45.
- Critique of Psychiatry; Alan Gregg, 285, Nov. '44.
- Cultural and Racial Variations in Patterns of Intellect*; Solomon Machover (R.), 424, Nov. '44.
- D
- Dark Legend. A Study in Murder*; Frederick Wertham (R.), 281, Sept. '44.
- Delaware State Medical Journal*, Mental Hygiene Number (Ed.), 272, Sept. '44.
- Delinquency:  
*Juvenile*:  
 Boy Sex Offender and His Later Career; Lewis J. Doshay (R.), 424, Nov. '44.  
 Juvenile Delinquency (Ed.), 414, Nov. '44.

- Young Offenders*; A. M. Carr-Saunders, Herman Mannheim, and E. C. Rhodes (R.), 567, Jan. '45.
- Demerol in Artificial Fever; Thomas J. Heldt, Nicholas P. Dallis, and William J. O'Connell, 789, May '45.
- Depression:
- Cerebral Metabolism in Patients with Depression; Harold E. Himwich, D. Ewen Cameron, Edmund Homburger, and Fred Feldman, 453, Jan. '45.
  - Electric Shock Therapy in Depressive States; Kenneth J. Tillotson, and Wolfgang Sulzbach, 455, Jan. '45.
- Devereux Award for 1945 (Ed.), 560, Jan. '45.
- Directory of Agencies in Philadelphia*, Municipal Court of Philadelphia (R.), 709, Mar. '45.
- Directory of Psychiatric Clinics in the United States* (Ed.), 563, Jan. '45.
- Drug Therapy:
- Drugs in the Treatment of Traumatic War Neuroses; Robert G. Heath, and Stephen H. Sherman, 355, Nov. '44.
- E
- Education (Ed.), 130, July '44; 416, Nov. '44.
- Electroencephalography:
- Age and EEG. Abnormality in Neuropsychiatric Patients; Milton Greenblatt, 82, July '44.
  - Behavior Problem Children, EEG. in; Charles I. Solomon, Warren T. Brown, and Max Deutscher, 51, July '44.
  - Behavior Problem Children, Neurotic Traits and EEG. in; Joseph J. Michaels, and Lazarus Secunda, 407, Nov. '44.
  - Clinical and Electro-Physiological Observations following Electroshock; Lorne D. Proctor, and John E. Goodwin, 797, May '45.
  - EEG. Studies in Head Injury; Robert S. Dow, George Ulett, and John Raaf, 174, Sept. '44.
  - EEG. Studies in Organic Brain Disease; Hans Strauss, 42, July '44.
  - EEGS. of 100 Psychoneurotics and 500 Normal Adults; Mary A. B. Brazier, Jacob E. Finesinger, and Stanley Cobb, 443, Jan. '45.
  - Rapid Frequency Potential Changes in Human EEG.; Knox H. Finley, 194, Sept. '44.
  - Relationship of Mental Deficiencies, Convulsive Disorders, Avitaminosis and Alteration of Electro-Neuronal Potential; George H. Cook, 166, Sept. '44.
  - Review of Psychiatric Progress, 1944; Frederic A. Gibbs, 530, Jan. '45.
- Electronarcosis, A Therapy in Schizophrenia; Esther B. Tietz, George N. Thompson, A. Van Harreveld, and C. A. G. Wiersma, 821, May '45.
- Electroshock Therapy:
- Clinical and Electro-Physiological Observations following Electroshock; Lorne D. Proctor, and John E. Goodwin, 797, May '45.
  - Effect of Electroshock Therapy on Cerebral Spinal Fluid; James S. L. Jacobs, 110, July '44.
  - Electric Shock in Depressive States; Kenneth J. Tillotson, and Wolfgang Sulzbach, 455, Jan. '45.
  - Electroshock Research Association (Ed.), 835, May '45.
  - Ellis, William John, Commissioner of New Jersey, Death of (Ed.), 834, May '45.
  - Emotions: *See also* Psychosomatic Medicine.
  - Cardiac Changes in Intense Emotion (Case Report); Thomas A. Loftus, Harry Gold, and Oskar Diethelm, 697, Mar. '45.
  - Symptomatology and Management of Acute Grief; Erich Lindemann, 141, Sept. '44.
  - Encephalitis, A Clinical Study*; Joseph B. Heal, et al (R.), 420, Nov. '44.
  - Endocrinology, Review of Psychiatric Progress, 1944; John C. Whitehorn, 533, Jan. '45.
  - England, War and Mental Health in*; James M. Mackintosh (R.), 284, Sept. '44.
  - Equanimity (Ed.), 829, May '45.
  - Eugenics, Review of Psychiatric Progress, 1944; Franz J. Kallmann, 536, Jan. '45.
  - Experimental Neuropathology:
    - Experimental "Epilepsy" in the Baboon and Epileptiform Seizures in the Dog, Rabbit and Guinea Pig; N. Kopeloff, S. E. Barrera, and L. M. Kopeloff, 201, Sept. '44.  - Experimental Neuroses:
    - Behavior and Neurosis. An Experimental Psychoanalytic Approach to Psychobiologic Principles; Jules H. Masserman, 570, Jan. '45.
    - Experimental Basis for Neurotic Behavior*; W. Horsley Gantt (R.), 505, Jan. '45.
    - Experimental Neurosis and Alcohol; Jules H. Mosserman, 389, Nov. '44.

F

*Family and Democratic Society*; Joseph Kirk Folsom (R.), 421, Nov. '44.

Forensic Psychiatry:

    - Ray, Isaac, Psychiatrist and Pioneer in Forensic Psychiatry; A. Warren Stearns, 573, Mar. '45.
    - Review of Psychiatric Progress, 1944; Winfred Overholser, 541, Jan. '45.

Freud:

    - Freud's Contribution to Psychiatry*; A. A. Brill (R.), 712, Mar. '45.
    - Freud, Master and Friend*; Hans Sachs (R.), 425, Nov. '44.
    - Freudianism and the Psychoanalytic Tradition; Joseph Wortis, 814, May '45.

G

General Paresis in Senility, Review of Literature and Clinico-Pathologic Report of 6 Cases; Silvano Arieti, 585, Mar. '45.

*General Semantics, Papers from Second American Congress*; M. Kendig (R.), 136, July '44.

Geriatrics: *See also* Senility.

    - Review of Psychiatric Progress, 1944; Karl M. Bowman, 525, Jan. '45.

Gerontology (Ed.), 560, Jan. '45.

Gheel Colony, Belgium (Correspondence); 699, Mar. '45.

- Goodrich, Annie W., Biographical Sketch, 271, Sept., '44.  
 Gregory Memorial Lectures, Dr. Edward A. Strecker delivered first of annual series (Ed.), 835, May '45.  
 Grief Reactions:  
   Symptomatology and Management of Acute Grief; Erich Lindemann, 141, Sept. '44.  
 Group Analysis Utilizing the Harrower-Erickson (Rorschach) Test; William Rottersman, and H. H. Goldstein, 501, Jan. '45.  
 Group Psychotherapy: *See also* Military Group Psychotherapy.  
   Group Psychotherapy, Superior Method of Treating Larger Numbers of Neurotics; Samuel B. Hadden, 68, July '44.  
   Group Treatment with Reference to Group Projection Methods; Maxwell Jones, 292, Nov. '44.  
 Group Treatment: *See* Group Psychotherapy, Military Group Psychotherapy.

## H

- Hammond, Graeme Monroe, 1859-1944 (O.), 572, Jan. '45.  
 Head Injury, Electroencephalographic Studies following; Robert S. Dow, George Ulett, and John Raaf, 174, Sept. '44.  
 Health and Hygiene: Lloyd Ackerman (R.), 283, Sept. '44.  
 Heredity:  
   Heredity in the Functional Psychoses; Ralph Rosenberg, 157, Sept. '44.  
   Review of Psychiatric Progress, 1944; Franz J. Kallmann, 536, Jan. '45.  
 Historical: *See also* Biographical.  
   American Psychiatric Association, History of the Section on Convulsive Disorders; G. Kirby Collier, 468, Jan. '45.  
   Chicago, Psychiatric Facilities and Surroundings; Peter Bassoe, 690, Mar. '45.  
   Child Psychiatry, A Brief History of Developments; Lawson G. Lowrey, 375, Nov. '45.  
   Critique of Psychiatry; Alan Gregg, 285, Nov. '44.  
   Gheel Colony, Belgium, (Correspondence), 699, Mar. '45.  
   Hypertension and Hypertensive Disease; William Goldring, and Herbert Chasis (R.), 839, May '45.  
   Spain as the Cradle of Psychiatry in Europe; Peter Bassoe, 731, May '45.  
 Holmes, Oliver Wendell, *Psychiatric Novels of*; Clarence P. Oberndorf (R.), 417, Nov. '44.  
 Homosexuality:  
   Metabolism and Sella Turcica in Homosexuals; William R. Rosanoff, and Francis E. Murphy, 97, July '44.  
   The Homosexual as a Personality Type; Herbert Greenspan, and John D. Campbell, 682, Mar. '45.  
 Human Conflict and Geography (Ed.), 562, Jan. '45.  
 Human Gastric Function; Stewart Wolff, and Harold G. Wolff (R.), 133, July '44.  
 Humphreys, Dr. Edward J., Director of Mental Hygiene in Michigan (Ed.), 564, Jan. '45.

## Hypnosis:

- Hypnotic Techniques for Therapy of Acute Psychiatric Disturbances in War; Milton H. Erickson, 668, Mar. '45.  
*What is Hypnosis*; Andrew Salter (R.), 568, Jan. '45.

## I

- Ibero-America, Review of Psychiatric Progress in; A. C. Pacheco e Silva, 113, July '44.  
 Incest:  
   *Sobre a Psicopatologia do Incesto*; Darcy de Mendonca Uchoa (R.), 425, Nov. '44.  
*Industrial Psychology*, Handbook of; May Smith (R.), 838, May '45.  
 Infant Development:  
   *Neuromuscular Maturation of the Human Infant*; Myrtle B. McGraw (R.), 708, Mar. '45.  
   *Rights of Infants*; Margaret A. Ribble (R.), 422, Nov. '44.  
 Infantile Paralysis: *See* National Foundation for Infantile Paralysis.  
 Insulin Shock Therapy: *See also* Convulsive Shock Therapy, Electroshock Therapy, Metrazol Shock Therapy.  
   Acute Alcoholism Treated with Insulin; Sidney J. Tillim, 396, Nov. '44.  
   *Insulin Shock Therapy*; Temporary Commission on State Hospital Problems (R.), 842, May '45.  
   Insulin Shock Therapy after Seven Years, Pennsylvania Hospital; Earl D. Bond, and Thurston D. Rivers, 62, July '44.  
   Insulin Treatment in Schizophrenia, Seven Year Survey; Alexander Gralnick, 449, Jan. '45.  
   Prolonged Insulin Shock (Case Report); Walter Goldfarb, J. M. Laughlin, and H. E. Kiene, 827, May '45.  
 Intelligence of Normal and Epileptic Twins; William G. Lennox, and A. L. Collins, 764, May '45.  
 Internship: *See* Psychiatric Internship.

## J

- Jelliffe, Dr. Smith Ely, and the Journal of Nervous and Mental Disease (Ed.), 702, Mar. '45.  
*Journal of Clinical Psychology* (Ed.), 414, Nov. '44.  
*Journal of Mental Science*, Special Number, "Recent Progress in Psychiatry" (R.), 420, Nov. '44.  
*Journal of Nervous and Mental Disease*; Dr. Smith Ely Jelliffe relinquishes editorship (Ed.), 702, Mar. '45.  
*Journal of Neurosurgery* (Ed.), 561, Jan. '45.  
 Juvenile Delinquency: *See* Delinquency.

## K

- Klopp, Henry Irwin, 1870-1945 (O.), 844, May '45.  
 Kolb, Dr. Lawrence, called by California Department of Corrections (Ed.), 705, Mar. '45.

## L

- Language and Thought in Schizophrenia*; J. S. Kasanin (R.), 711, Mar. '45.  
 Laskar Award in Mental Hygiene (Ed.), 416, Nov. '44; 835, May '45.

## Legislation:

National Neuropsychiatric Institute Act Introduced March 9, 1945 (Ed.), 832, May '45.

Proposed Legislation, Public Health Service (Ed.), 703, Mar. '45.

Wagner, Murray, Dingle Bill, Psychiatric Implications (Ed.), 123, July '44.

## Leucotomy:

Prefrontal Lobotomy, 15 Patients before and after Operation; Josef A. Kindwall, and David Cleveland, 749, May '45.

Prefrontal Lobotomy, The Problem of Schizophrenia; Watler Freeman, and James W. Watts, 739, May '45.

Libraries in War Areas, Aid to (Ed.), 274, Sept. '44.

Lobotomy: See Leucotomy.

## M

*Managing Your Mind*; S. H. Kraines, and E. S. Thetford (R.), 134, July '44.

*Manual de Psiquiatria*; E. Mira y Lopez (R.), 419, Nov. '44.

Medical Correctional Association (Ed.), 131, July '44.

Medical Ethics in Peace and War (Ed.), 129, July '44.

*Medicine and the War*; William H. Taliaferro (R.), 283, Sept. '44.

Medico-Psychological Program at the U. S. Coast Guard Academy; Robert H. Felix, Dale C. Cameron, Joseph M. Bobbitt, and Sidney H. Newman, 635, Mar. '45.

Menninger Foundation Scholarships (Ed.), 559, Jan. '45.

Menopause, Medical View of the; Trevor Owen, 756, May '45.

## Mental Deficiency:

Mental Disease among Mental Defectives; Horatio M. Pollock 361, Nov. '44.

Relationship of Mental Deficiencies, Convulsive Disorders, Avitaminosis and Alteration of Electro-Neuronal Potential; George H. Cook, 166, Sept. '44.

Research Program in Mental Deficiency over a Fifteen Year Period; Robert H. Haskell, 73, July '44.

Review of Psychiatric Progress, 1944; Leo Kanner, 528, Jan. '45.

Mental Disease among Mental Defectives; Horatio M. Pollock, 361, Nov. '44.

## Mental Health:

Psychiatric Investigation in Britain; Aubrey Lewis, 486, Jan. '45.

*War and Mental Health in England*; James M. Mackintosh (R.), 284, Sept. '44.

## Mental Hygiene:

Laskar Award in Mental Hygiene (Ed.), 416, Nov. '44; 835, May '45.

Mental Hygiene Program for the Military Hospital; Louis S. Lipschutz, and Rebecca Rosen, 614, Mar. '45.

Mental Hygiene Service for Students, University of Puerto Rico (Ed.), 559, Jan. '45.

*Mental Hygiene, The Psychology of Personal Adjustment*; D. B. Klein (R.), 840, May '45.

Philadelphia County Medical Society, Mental Hygiene Activities (Ed.), 563, Jan. '45.

Mental Tests: See Tests.

Merchant Marine: See also Air Force, Army, Army Air Force, Military Group Psychotherapy, Military Psychiatry, Navy, Post-Traumatic Neuroses, Rehabilitation Therapy, War Neuroses.

A Course in Psychological First Aid and Prevention; Daniel Blain, Paul Hoch, and V. G. Ryan, 629, Nov. '44.

Drugs in the Treatment of Traumatic War Neuroses; Robert G. Heath, and Stephen H. Sherman, 355, Nov. '44.

Review of Cases at Merchant Marine Rest Centres; Florence Powdermaker, 650, Mar. '45.

## Metrazol Shock Therapy:

Atypical Post-Metrazol Status Epilepticus (Case Report); J. A. Cummins, 117, July '44.

## Military Delinquency:

Selective Service Violators; C. G. Southard, and J. R. Hurley, 661, Mar. '45.

Military Group Psychotherapy: See also Rehabilitation Therapy.

Group Psychotherapy in the War Neuroses; Louis A. Schwartz, 498, Jan. '45.

Military Group Psychotherapy (Navy); Howard P. Rome, 494, Jan. '45.

Military Psychiatry: See also Air Force, Army, Army Air Force, Merchant Marine, Military Group Psychotherapy, Navy, Post-Traumatic Neuroses, Rehabilitation Therapy, War Neuroses.

A Method of Psychobiologic Evaluation; J. Robert Jacobson, 343, Nov. '44.

Current Trends in Military Neuropsychiatry; Malcolm J. Farrell, 12, July '44.

*Manual of Military Neuropsychiatry*; Harry C. Solomon, and Paul I. Yakovlev (R.), 571, Jan. '45.

Mental Hygiene Program for the Military Hospital; Louis S. Lipschutz, and Rebecca Rosen, 614, Mar. '45.

Military Problem of Malingering (Round Table Discussion), 553, Jan. '45.

Review of Psychiatric Progress, 1944; Winfred Overholser, 541, Jan. '45.

U. S. Coast Guard Academy, Medico-Psychological Program; Robert H. Felix, Dale C. Cameron, Joseph M. Bobbitt, and Sidney H. Newman, 635, Mar. '45.

Mitchell, Weir, Biographical Sketch; Margaret C.-L. Gildea, and Edwin F. Gildea, 460, Jan. '45.

Modern Hospital Publishing Co. Announces Essay Competition (Ed.), 836, May '45.

Moore, Major Merrill, awarded Bronze Star Medal (Ed.), 560, Jan. '45.

*Municipal Court of Philadelphia, 1945* (R.), 421, Nov. '44.

Music, Some Objective Studies of Rhythm in; Howard Hanson, 364, Nov. '44.



## N

## Narcosis:

Correlation of Sodium Amytal Narcosis and Convulsive Shock Treatment; Robert A. Clark, Rodney H. Kiefer, and Martin J. Gerson, 801, May '45.

National Committee for Mental Hygiene (Ed.), 275, Sept. '44; 556, Jan. '45; 558, Jan. '45.

National Foundation for Infantile Paralysis (Ed.), 274, Sept. '44.

National Neuropsychiatric Institute Act Introduced March 9, 1945 (Ed.), 832, May '45.

Navy: See also Air Force, Army, Army Air Force, Group Psychotherapy, Merchant Marine, Military Psychiatry, Post-Traumatic Neuroses, Rehabilitation Therapy, War Neuroses, War Psychiatry.

Group Psychotherapy in the War Neuroses; Louis A. Schwartz, 498, Jan. '45.

Military Group Psychotherapy; Howard P. Rome, 494, Jan. '45.

Naval Delinquency; Psychopathology of a Selected Population of Naval Offenders; Joseph D. Teicher, 726, May '45.

Neuropsychiatry in the U. S. Marine Corps, Women's Reserve; Philip Solomon, Meyer Brown, and M. R. Jones, 643, Mar. '45.

Psychiatric Casualties in the Royal Canadian Navy; Marvin Wellman, and J. F. Simpson, 625, Mar. '45.

Psychiatric Observations in a Combat Area in the South Pacific; James M. Henninger, 824, May '45.

Psychiatric Practice Aboard a Hospital Ship in a Combat Area; Dana L. Farnsworth, and Robert S. Wigton, 504, Jan. '45.

Psychiatry and the U. S. Navy; Ross T. McIntire, 717, May '45.

Psychoses in Naval Officers, A Plea for Psychiatric Selection; Z. M. Lebensohn, 511, Jan. '45.

Submarine Warfare, Psychiatric Reactions in; A. R. Behnke, 720, May '45.

*The Wounded Get Back*; Albert G. Maisel (R.), 569, Jan. '45.

Treatment of Combat Induced Emotional Disorders in a General Hospital within Continental Limits; G. N. Raines, and L. C. Kolb, 331, Nov. '44.

Nazi Doctors (Ed.), 122, July '44.

Neurology, *Textbook of Clinical*; Israel S. Wechsler (R.), 280, Sept. '44.

*Neuromuscular Maturation of the Human Infant*; Myrtle B. McGraw (R.), 708, Mar. '45.

## Neuropathology:

*An Outline of Neuropathology*; A. B. Baker (R.), 281, Sept. '44.

Corpus Callosum. IV. Diagnostic Dyspraxia in Epileptics following Partial and Complete Section of the Corpus Callosum; Andrew J. Akelaitis, 594, Mar. '45.

Review of Psychiatric Progress, 1944; John C. Whitehorn, 533, Jan. '45.

X-Ray in Local Atrophic Brain Lesions; Arthur E. Childe, and Wilder Penfield, 30, July '44.

*Neuropsychiatry, Synopsis of*; Lowell S. Selling (R.), 277, Sept. '44.

Neuroses: See also Post-Traumatic Neuroses, War Neuroses.

Group Psychiatry, Superior Method of Training Larger Numbers of Neurotics; Samuel B. Hadden, 68, July '44.

Psychoneuroses, Combat Anxiety Type; Robert B. McElroy, 517, Jan. '45.

Neurosyphilis, Review of Psychiatric Progress, 1944; Harry C. Solomon, 526, Jan. '45.

## New York:

Care of the Mentally Ill in New York; William L. Russell, 184, Sept. '44.

Norton Medical Award (Ed.), 704, Mar. '45.

## O

## Obituaries:

Aschaffenburg, Gustav, 1866-1944; 413, Nov. '44; 427, Nov. 1944.

Burr, Charles Walts, 1861-1944; 138, July '44.

Hammond, Graeme Monroe, 1859-1944; 572, Jan. '45.

Klopp, Henry Irwin, 1870-1945 (O.), 844, May '45.

Wright, Rebekah, 1873-1945; 845, May '45.

Ziegler, Lloyd Hiram, 1892-1945; 714, Mar. '45.

## Occupational Therapy:

In the Southwest Pacific (Ed.), 131, July '44.

Positions in Occupational Therapy (Ed.), 130, July '44.

Review of Psychiatric Progress, 1944; George S. Stevenson, 539, Jan. '45.

Organic Brain Disease, Clinical and Electroencephalographic Studies in; Hans Strauss, 42, July '44.

*Orthopedically Handicapped, Services to the*; Louis P. Hoyer, and Charles K. Hay (R.), 422, Nov. '44.

Orthoepy (Ed.), 273, Sept. '44; 699, Mar. '45.

## P

*Pain Mechanism*; W. K. Livingstone (R.), 567, Jan. '45.

Paresis: See General Paresis.

Paris, A Report from (Ed.), 555, Jan. '45.

Penrose, Dr. Lionel, Returns to London (Ed.), 706, Mar. '45.

*People of Alor*; Cora Dubois (R.), 841, May '45.

*Personality and Character (La Personalidad y el Carácter)*; Honorio Delgado (R.), 708, Mar. '45.

*Philadelphia, Directory of Agencies in*; Municipal Court of Philadelphia (R.), 709, Mar. '45.

*Physiology of the Nervous System*; John Farquhar Fulton (R.), 282, Sept. '44.

Pi Lambda Theta Research Awards (Ed.), 414, Nov. '44.

## Positions:

Civil Service Medical Opportunities (Ed.), 561, Jan. '45.

Director of Community Psychiatric Clinic, Los Angeles (Ed.), 129, July '44.

Occupational Therapy Aides Positions (Ed.), 130, July '44.

St. Elizabeths Hospital (Ed.), 415, Nov. '44.

Western State (Pa.) Psychiatric Institute and Clinic, Residences (Ed.), 836, May '45.

*Postencephalitic Parkinsonism, Methods of Treatment in*; Harry D. von Witzleben (R.), 279, Sept. '44.

- Post-Traumatic Neuroses: *See also* War Neuroses.  
 Drugs in Treatment of Traumatic War Neuroses; Robert G. Heath, and Stephen H. Sherman, 355, Nov. '44.  
 Prefrontal Lobotomy: *See* Leucotomy.  
 Presidential Address, 1943-1944; Edward A. Strecker, 1, July '44.  
 President's Letter (Karl M. Bowman), 119, July '44; 411, Nov. '44.  
 Problem Children: *See also* Behavior Problems.  
 Proceedings, 100th Annual Meeting, American Psychiatric Association, Philadelphia, 216, Sept. '44; 553, Jan. '45.  
 Prostitution Control, Psychiatric Aspects of; George N. Thompson, 677, Mar. '45.  
 Psychiatric Clinics in the United States, Directory (Ed.), 503, Jan. '45.  
 Psychiatric Education:  
   Psychiatric Internship; Grosvenor B. Pearson, and Kathryn L. Schultz, 793, May '45.  
   Review of Psychiatric Progress, 1944; Charles A. Rymer, 545, Jan. '45.  
 Psychiatric Internship; Grosvenor B. Pearson, and Kathryn L. Schultz, 793, May '45.  
 Psychiatric Nursing:  
   Graduate Psychiatric Nursing, Western Reserve University (Ed.), 705, Mar. '45.  
   Psychiatric Nursing Education at Yale (Ed.), 271, Sept. '44.  
   *Psychiatry for Nurses*; Louis J. Karnosh, and Edith B. Gage (R.), 424, Nov. '44.  
   Review of Psychiatric Progress, 1944; George S. Stevenson, 539, Jan. '45.  
   Survey in Psychiatric Nursing Postgraduate Courses; Laura Fitzsimmons, 472, Jan. '45.  
 Psychiatric Rehabilitation Therapy: *See* Rehabilitation Therapy.  
 Psychiatric Social Work:  
   Review of Psychiatric Progress, 1944; George S. Stevenson, 539, Jan. '45.  
   War Office of Psychiatric Social Work Continued (Ed.), 705, Mar. '45.  
*Psychiatry, Fundamentals of*; Edward A. Strecker (R.), 137, July '44.  
 Psychoanalysis:  
   Contribution of Psychiatry to Psychoanalysis; Leo H. Bartemeier, 204, Sept. '44.  
   *Freud, Master and Friend*; Hans Sachs (R.), 425, Nov. '44.  
   Freudianism and the Psychoanalytic Tradition; Joseph Wortis, 814, May '45.  
   *Freud's Contribution to Psychiatry*; A. A. Brill (R.), 712, Mar. '45.  
   *Introduction to the Psychoanalytic Theory of the Libido*; Richard Sterba (R.), 278, Sept. '44.  
   Relationship of Psychoanalysis to Psychiatry; Robert P. Knight, 777, May '45.  
 Psychobiologic Evaluation, A Method of; J. Robert Jacobson, 343, Nov. '44.  
 Psychogenic Cure, Nature of; C. P. Oberndorf, 91, July '44.  
 Psychogram, The (Ed.), 127, July '44.  
*Psychological Medicine, Manual of*; A. F. Tredgold (R.), 707, Mar. '45.  
 Psychologists, Clinical, in the Army (Ed.), 130, July '44.  
*Psychology and the Nurse*; Frank J. O'Hara (R.), 135, July '44.  
 Psychometrics, Review of Psychiatric Progress, 1944; F. L. Wells, 550, Jan. '45.  
 Psychoneuroses: *See* Neuroses, Post-Traumatic Neuroses, War Neuroses.  
 Psychopathology of Naval Offenders; Joseph D. Teicher, 726, May '45.  
 Psychosomatic Medicine: *See also* Emotions.  
   Review of Psychiatric Progress, 1944; Nolan D. C. Lewis, 521, Jan. '45.  
 Psychosurgery:  
   *Psychosurgery*; Walter Freeman, James W. Watts, and Thelma Hunt (R.), 280, Sept. '44.  
   Review of Psychiatric Progress, 1944; Nolan D. C. Lewis, 521, Jan. '45.  
 Psychotherapy: *See also* Group Psychotherapy, Military Group Psychotherapy.  
*Psychotherapy Council Brochures*; Institute of Psychoanalysis (R.), 711, Mar. '45.
- R
- Racial Differences (Ed.), 706, Mar. '45.  
 Ray, Isaac, Psychiatrist and Pioneer in Forensic Psychiatry; A. Warren Stearns, 573, Mar. '45;  
   Photograph 583, Mar. '45.  
*Rebel Without a Cause*; Robert M. Lindner (R.), 841, May '45.  
*Recovery, Incorporated, Publication of Association of Former Mental Patients*; Abraham A. Low (R.), 133, July '44.  
 Rehabilitation Therapy:  
   Duke Rehabilitation Clinic (Ed.), 561, Jan. '45.  
   Illinois Society for Mental Hygiene, Rehabilitation Clinic for Ex-Service Men (Ed.), 274, Sept. '44.  
   Midwest Conference on Rehabilitation (Ed.), 562, Jan. '45.  
   Milwaukee Neuropsychiatric Society Rehabilitation Service (Ed.), 564, Jan. '45.  
   Psychiatric Rehabilitation Therapy, New York Hospital; Thomas A. C. Rennie, 476, Jan. '45.  
   Rehabilitating Program in Army Hospitals; Walter E. Barton, 608, Mar. '45.  
   Rehabilitation Clinics, Chicago, San Francisco, Boston, Detroit, Ann Arbor, Flint, Kalamazoo, Saginaw (Ed.), 835, May '45.  
   *Rehabilitation of the War Injured*; William Brown Doherty, and Dagobert D. Runes (R.), 417, Nov. '44.  
   San Francisco, Mount Zion Hospital, Rehabilitation Psychiatric Clinic (Ed.), 274, Sept. '44.  
 Research Program in Mental Deficiency; Robert H. Haskell, 73, July '44.  
 Residencies at Western State (Pa.) Psychiatric Institute and Clinic (Ed.), 836, May '45.  
 Review of Psychiatric Progress, 1944 (Symposium), 521, Jan. '45.  
 Review of Psychiatric Progress in Ibero-America; A. C. Pacheco e Silva, 113, July '44.  
 Riggs, Austin Fox (Biographical Sketch); Margaret C.-L. Gildea, and Edwin G. Gildea, 460 Jan. '45.

- Rockefeller Foundation Post-War Training Grants (Ed.), 704, Mar. '45.  
 Roentgen Anniversary (Ed.), 836, May '45.  
 Rorschach Test:  
   Group Analysis Utilizing the Harrower-Erickson (Rorschach) Test; William Rottersman, and H. H. Goldstein, 501, Jan. '45.  
   Quantitative Use of the Rorschach Method; W. D. Ross, 100, July '44.  
   Rorschach Course, Michael Reese Hospital (Ed.), 705, Mar. '45.  
   *Rorschach's Test*; Samuel J. Beck (R.), 709, Mar. '45.  
 Rush, Benjamin:  
   Correction 127, July '44.  
   Psychiatry of Benjamin Rush; Richard H. Shryock, 429, Jan. '45.  
   Revaluation of Benjamin Rush; Adolf Meyer, 433, Jan. '45.

## S

- Saethe, Dr. Haakon, Norwegian Psychiatrist Shot in Reprisal (Ed.), 831, May '45.  
 Salmon Lectures, 1944; Brig.-General J. R. Rees (Ed.), 415, Nov. '44.  
 Salmon Lectures, 1945, Dr. Roy Graham Hoskins (Ed.), 704, Mar. '45.  
 Salmon, Thomas (Biographical Sketch); Margaret C.-L. Gildea, and Edwin F. Gildea, 460, Jan. '45.  
 Sandy, Dr. W. C., and the Pennsylvania Service (Ed.), 555, Jan. '45.  
 Schizophrenia: *See also* Convulsive Shock Therapy, Electroshock Therapy, Insulin Shock Therapy.  
   Developmental Roots of Schizophrenia; J. S. Kasanin, 770, May '45.  
   *Language and Thought in Schizophrenia*; J. S. Kasanin (R.), 711, Mar. '45.  
   Prefrontal Lobotomy, The Problem of Schizophrenia; Walter Freeman, and James W. Watts, 739, May '45.  
   Social Anxiety Neurosis, Its Possible Relationship to Schizophrenia; Abraham Myerson, 149, Sept. '44.  
 Scientific Mind (Ed.), 702, Mar. '45.  
 Selective Service Violators; C. G. Southard, and J. R. Hurley, 661, Mar. '45.  
 Senility: *See also* Geriatrics.  
   General Paresis in Senility; Silvani Arietti, 585, Mar. '45.  
   Speech in Senility; Fred Feldman, and D. Ewen Cameron, 64, July '44.  
 Social Anxiety Neurosis, Its Possible Relationship to Schizophrenia; Abraham Myerson, 149, Sept. '44.  
 Social Service: *See also* Psychiatric Social Work.  
   *An Introduction to Sociology and Social Problems*; Deborah MacLurg Jensen (R.), 710, Mar. '45.  
   *People of Alor*; A Social Psychological Study of an East Indian Island; Cora DuBois (R.), 841, May '45.  
 Sodium Amytal:  
   Results of Sodium Amytal Narcosis and of Convulsive Shock Treatment; Robert A. Clark, Rodney H. Kiefer, and Martin J. Gerson, 801, May '45.  
*Soldier to Civilian*; George K. Pratt (R.), 707, Mar. '45.  
 Spain as the Cradle of Psychiatry in Europe; Peter Bassoe, 731, May '45.  
 Speech in Senility; Fred Feldman, and D. Ewen Cameron, 64, July '44.  
 Startle Neurosis; Frederick C. Thorne, 105, July '44.  
 Status Epilepticus, Atypical Post-Metrazol (Case Report); J. A. Cummins, 117, July '44.  
 Strecker, Edward A., President 1943-1944 (Biographical Sketch); Lauren H. Smith, 9, July '44.  
 Submarine Warfare: *See* Navy.  
 Suicide, Psychiatric Problems of; James H. Wall, 404, Nov. '44.  
*Sulfonamides*; Colin M. MacLeod, Paul H. Bell, et al (R.), 134, July '44.

## T

- Tallman, Dr. Frank F., becomes Commissioner of Mental Diseases, Ohio Dept. of Public Welfare, Columbus (Ed.), 128, July '44.  
 Tattooed Psychotic Patients; Otakar J. Pollak, and Elisabeth C. McKenna, 673, Mar. '45.  
 Taylor, Effie J. (Biographical Sketch), 271, Sept. '44.  
 Tests: *See also* Psychometrics, Rorschach Test.  
   A Method of Psychobiological Evaluation; J. Robert Masserman, 343, Nov. '44.  
   Psychotic Profiles and Sex Profiles shown by a Test Battery; L. S. Penrose, 810, May '45.  
 Therapy: *See* Group Psychotherapy, Military Group Psychotherapy, Rehabilitation Therapy.  
 Traumatic Neuroses: *See also* Post-Traumatic Neuroses, War Neuroses.  
   X-Ray of Local Atrophic Brain Lesions; Arthur E. Childe, and Wilder Penfield, 30, July '44.  
 Treadway, Dr. Walter L., Retires from U. S. Public Health Service (Ed.), 829, May '45.  
 Tuberculosis among Patients at Anoka (Minnesota) State Hospital, 1934-1941; Walter P. Gardner, 370, Nov. '44.  
 Twins:  
   Intelligence of Normal and Epileptic Twins; William G. Lennox, and A. L. Collins, 764, May '45.

## U

- U. S. Coast Guard Academy, Medico-Psychological Program; Robert H. Felix, Dale C. Cameron, Joseph M. Bobbitt, and Sidney H. Newman, 635, Mar. '45.

## V

- Virginia Institute of Psychiatry (Ed.), 128, July '44.  
*Visceral Disease, Symptoms of*; Francis Marion Pottenger (R.), 838, May '45.

Vogel, I.  
 sulta  
 Nov

Wagner  
 tion  
 War: S  
 Aid to  
 '44.  
 Hypn  
 chie  
 son  
 Medi  
 (R  
 Psyc  
 423  
 Psyc  
 Jul  
 War  
 M  
 War  
 War N  
 th  
 Gro  
 L

Akela  
 losu  
 foll  
 Cor  
 Appe  
 Ariet  
 Ma

Barr  
 Barr  
 Bart  
 ch  
 Bart  
 ha  
 M  
 Bass  
 in  
 Bas  
 ca  
 Beh  
 a  
 M  
 Ber  
 tr  
 C  
 Bla  
 C  
 6  
 Bo  
 Bo  
 5

- Vogel, Dr. Victor H., *Becomes Psychiatric Consultant in Vocational Rehabilitation* (Ed.), 415, Nov. '44.

## W

- Wagner, Murray Dingle Bill, *Psychiatric Implications of* (Ed.), 123, July '44.  
 War: *See also Military Psychiatry.*  
 Aid to Libraries in War Areas (Ed.), 274, Sept. '44.  
 Hypnotic Techniques for Therapy in Acute Psychiatric Disturbances in War; Milton H. Erickson, 668, Mar. '45.  
*Medicine and the War*; William H. Taliaferro (R.), 283, Sept. '44.  
*Psychiatry and the War*; Frank J. Sladen (R.), 423, Nov. '44.  
*Psychiatry in War*; Emilio Mira (R.), 132, July '44.  
*War and Mental Health in England*; James M. Mackintosh (R.), 284, Sept. '44.  
 War Criminals (Ed.), 829, May '45.  
 War Neuroses: *See also Military Group Psychotherapy, Post-Traumatic Neuroses.*  
 Group Psychotherapy in the War Neuroses; Louis Schwartz, 498, Jan. '45.

- War Neuroses; Louis Minski, 600, Mar. '45.  
 War Neuroses in Flying Personnel Overseas and after return to the U. S. A.; Roy R. Grinker, and John P. Spiegel, 619, Mar. '45.  
 Wright, Rebekah, 1873-1945 (O.), 845, May '45.

## X

- X-Ray of Local Atrophic Brain Lesions; Arthur E. Childe, and Wilder Penfield, 30, July '44.

## Y

- Year Book (1944) of Neurology, Psychiatry and Endocrinology*; Hans H. Reese, Nolan D. C. Lewis, and Elmer L. Sevringhaus (R.), 843, May '45.

## Z

- Zachray, Dr. Caroline, *Death of* (Ed.), 706, Mar. '45.  
 Ziegler, Dr. Lloyd Hiram, 1892-1945 (O.), 714, Mar. '45.

## AUTHORS INDEX

## PART 2

## A

- Akelaitis, Andrew J.; *Studies on the Corpus Callosum, IV. Diagnostic Dyspraxia in Epileptics following Partial and Complete Section of the Corpus Callosum*, 594, Mar. '45.  
 Appel, John W.: *See Farrell, Malcolm J., jt. auth.*  
 Arieti, Silvano; *General Paresis in Senility*, 585, Mar. '45.

## B

- Barrera, S. E.: *See Kopeloff, N., jt. auth.*  
 Barrera, S. E.: *See Pacella, Bernard, jt. auth.*  
 Bartemeier, Leo H.; *The Contribution of Psychiatry to Psychoanalysis*, 205, Sept. '44.  
 Barton, Walter E.; *The Reconditioning and Rehabilitating Program in Army Hospitals*, 608, Mar. '45.  
 Bassoe, Peter; *Spain as the Cradle of Psychiatry in Europe*, 731, May '45.  
 Bassoe, Peter; *The Psychiatric Facilities of Chicago and Surroundings*, 690, Mar. '45.  
 Behnke, A. R.; *Psychological and Psychiatric Reactions in Diving and Submarine Warfare*, 720, May '45.  
 Berezin, Martin A.; *Experiences in Neuropsychiatric Screening of Overseas Replacements at an Overseas Replacement Center*, 336, Nov. '44.  
 Blain, Daniel, Hoch, Paul, and Ryan, V. C.; *A Course in Psychological First Aid Prevention*, 629, Mar. '45.  
 Bobbitt, Joseph M.: *See Felix, Robert H., jt. auth.*  
 Bond, Earl D., and Rivers, Thurston D.; *Insulin Shock Therapy after Seven Years*, 62, July '44.

- Bowman, Karl M.; *Alcohol, Geriatrics*, 525, Jan. '45.  
 Bowman, Karl M.; *The Psychiatrist Looks at the Child Psychiatrist*, 23, July '44.  
 Brazier, Mary A. B., Finesinger, Jacob, E., and Cobb, Stanley; *A Contrast between the Electroencephalograms of 100 Psychoneurotic Patients and those of 500 Normal Adults*, 443, Jan. '45.  
 Brown, Meyer: *See Solomon, Philip, jt. auth.*  
 Brown, Warren T.: *See Solomon, Charles I., jt. auth.*  
 Burack, Samuel; *Psychiatric Problems on a South Pacific Island*, 606, Mar. '45.

## C

- Cameron, Dale C.: *See Felix, Robert H., jt. auth.*  
 Cameron, D. Ewen; *Observations on the Patterns of Anxiety*, 36, July '44.  
 Cameron, D. Ewen: *See Feldman, Fred, jt. auth.*  
 Cameron, D. Ewen: *See Himwich, Harold E., jt. auth.*  
 Campbell, John D.: *See Greenspan, Herbert, jt. auth.*  
 Childe, Arthur E., and Penfield, Wilder; *The Role of X-Ray in the Study of Local Atrophic Lesions of the Brain*, 30, July '44.  
 Chisholm, G. B.; *Psychological Adjustment of Soldiers to Army and Civilian Life*, 300, Nov. '44.  
 Clark, Robert A., Kiefer, Rodney H., and Gerson, Martin J.; *Correlation of the Results of Sodium Amytal Narcosis and of Convulsive Shock Treatment*, 801, May '45.  
 Cleveland, David: *See Kindwall, Josef A., jt. auth.*



- Cobb, Stanley: *See* Brazier, Mary A. B., jt. auth.  
 Collier, G. Kirby; History of the Section on Convulsive Disorders and Related Efforts, 468, Jan. '45.  
 Collins, A. L.: *See* Lennox, William G., jt. auth.  
 Cook, George H.; Consideration of the Relationship of Primary and Secondary Mental Deficiencies, Convulsive Disorders, Avitaminosis, and Alteration of Electro-Neuronal Potential, 166, Sept. '44.  
 Cummins, J. A.; Atypical Post-Metrazol Status Epilepticus (Case Report); 117, July '44.

## D

- Dallis, Nicholas P.: *See* Heldt, Thomas J., jt. auth.  
 Deutscher, Max: *See* Solomon, Charles I., jt. auth.  
 Diethelm, Oskar: *See* Loftus, Thomas A., jt. auth.  
 Dow, Robert S., Ulett, George, and Raaf, John; Electroencephalographic Studies immediately following Head Injury, 174, Sept. '44.

## E

- Edlin, J. V., Johnson, R. H., Hletko, P., and Heilbrunn, G.; The Conditioned Aversion Treatment in Chronic Alcoholism, 806, May '45.  
 Erickson, Milton H.; Hypnotic Techniques for the Therapy of Acute Psychiatric Disturbances in War, 668, Mar. '45.

## F

- Farnsworth, Dana L., and Wigton, Robert S.; Psychiatric Practice Aboard a Hospital Ship in a Combat Area, 504, Jan. '45.  
 Farrell, Malcolm J., and Appel, John W.; Current Trends in Military Psychiatry, 12, July '44.  
 Feldman, Fred, and Cameron, D. Ewen; Speech in Senility, 64, July '44.  
 Feldman, Fred; *See* Himwich, Harold E., jt. auth.  
 Felix, Robert H., Cameron, Dale C., Bobbitt, Joseph M., and Newman, Sidney H.; An Integrated Medico-Psychological Program at the United States Coast Guard Academy, 635, Mar. '45.  
 Finesinger, Jacob E.: *See* Brazier, Mary A. B., jt. auth.  
 Finley, Knox H.; On the Occurrence of Rapid Frequency Potential Changes in the Human Electroencephalogram, 194, Sept. '44.  
 Fitzsimmons, Laura; Survey in Psychiatric Nursing Postgraduate Courses, 472, Jan. '45.  
 Fox, Henry M., and Schnaper, Nathan; Psychiatric Casualties in a General Hospital Overseas, 316, Nov. '44.  
 Freeman, Walter, and Watts, James W.; Pre-frontal Lobotomy, The Problem of Schizophrenia, 739, May '45.

## G

- Gardner, Walter P.; Pulmonary Tuberculosis among Patients at Anoka (Minnesota) State Hospital, 1934-1941; 370, Nov. '44.  
 Gerson, Martin J.: *See* Clark, Robert A., jt. auth.  
 Gibbs, Frederic A.; Electroencephalography, 530, Jan. '45.

- Gildea, Edwin P.: *See* Gildea, Margaret C.-L., jt. auth.  
 Gildea, Margaret C.-L., and Gildea, Edwin P.; Personalities of American Psychotherapists, Mitchell, Salmon, Riggs, 460, Jan. '45.  
 Gold, Harry: *See* Loftus, Thomas A., jt. auth.  
 Goldfarb, Walter, Laughlin, J. M., and Kiene, H. E.; Prolonged Insulin Shock (Case Report), 827, May '45.  
 Goldstein, H. H., and Rottersman, William; Induction Psychiatry, 210, Sept. '44.  
 Goldstein, H. H.: *See* Rottersman, William, jt. auth.  
 Goodwin, John E.: *See* Proctor, Lorne D., jt. auth.  
 Gralnick, Alexander; A Seven Year Survey of Insulin Treatment in Schizophrenia, 449, Jan. '45.  
 Greenblatt, Milton; Age and Electroencephalographic Abnormality in Neuropsychiatric Patients, 82, July '44.  
 Greenspan, Herbert, and Campbell, John D.; The Homosexual as a Personality Type, 682, Mar. '45.  
 Gregg, Alan; A Critique of Psychiatry, 285, Nov. '44; (Correspondence, Earl D. Bond, 410, Nov. '44).  
 Grinker, Roy R., and Spiegel, John P.; War Neuroses in Flying Personnel Overseas and after return to the U. S. A., 619, Mar. '45.

## H

- Hadden, Samuel B.; Group Psychotherapy, 68, July '44.  
 Hanson, Howard; Some Objective Studies of Rhythm in Music, 364, Nov. '44.  
 Haskell, Robert H.; The Development of a Research Program in Mental Deficiency over a Fifteen-Year Period, 73, July '44.  
 Hawk, William A.; The Psychiatric Aspects of Officer Selection, 655, Mar. '45.  
 Heath, Robert G., and Sherman, Stephen H.; The Use of Drugs in the Treatment of Traumatic War Neuroses, 355, Nov. '44.  
 Heilbrunn, G.: *See* Edlin, J. V., jt. auth.  
 Heldt, Thomas J., Dallis, Nicholas P., and O'Connell, William J.; The Use of Demerol in Artificial Fever, 789, May '45.  
 Henninger, James M.; Psychiatric Observations in a Combat Area in the South Pacific, 824, May '45.  
 Himler, Leonard E., and Raphael, Theophile; A Follow-Up Study of 93 College Students with Epilepsy, 760, May '45.  
 Himwich, Harold E., Cameron, D. Ewen, Homburger, Edmund, and Feldman, Fred; Cerebral Metabolism in Patients with Depression, 453, Jan. '45.  
 Hletko, P.: *See* Edlin, J. V., jt. auth.  
 Hoch, Paul: *See* Blain, Daniel, jt. auth.  
 Homburger, Edmund: *See* Himwich, Harold E., jt. auth.  
 Hurley, J. R.: *See* Southard, C. G., jt. auth.

## J

- Jacobs, James S. L.; The Effect of Electric Shock Therapy upon Cerebrospinal Fluid Pressure, Protein and Cells, 110, July '44.

- Jacobson, J. Robert; A Method of Psychobiologic Evaluation, 343, Nov. '44.  
 Johnson, R. H.: *See* Edlin, J. V., jt. auth.  
 Jones, Maxwell; Group Treatment, with particular reference to Group Projection Methods, 292, Nov. '44.  
 Jones, M. R.: *See* Solomon, Philip, jt. auth.

## K

- Kallmann, Franz J.; Heredity and Eugenics, 536, Jan. '45.  
 Kanner, Leo; Child Psychiatry, Mental Deficiency, 528, Jan. '45.  
 Kaplan, Harold M., and Lynch, Roland J.; Color Blindness in the Psychoses, 675, Mar. '45.  
 Kasanin, J. S.; Developmental Roots of Schizophrenia, 770, May '45.  
 Kiefer, Rodney H.: *See* Clark, Robert A., jt. auth.  
 Kiene, H. E.: *See* Goldfarb, Walter, jt. auth.  
 Kindwall, Josef A., and Cleveland, David; Prefrontal Lobotomy, 15 Patients before and after Operation, 749, May '45.  
 Knight, Robert P.; The Relationship of Psychoanalysis to Psychiatry, 777, May '45.  
 Kolb, L. C.: *See* Raines, G. N., jt. auth.  
 Kopeloff, L. M.: *See* Kopeloff, N., jt. auth.  
 Kopeloff, N., Barrera, S. E., and Kopeloff, L. M.; Experimental Chronic "Epilepsy" in the Baboon and Epileptiform Seizures in the Dog, Rabbit and Guinea Pig, 201, Sept. '44.

## L

- Laughlin, J. M.: *See* Goldfarb, Walter, jt. auth.  
 Lebensohn, Z. M.; Psychoses in Naval Officers; A Plea for Psychiatric Selection, 511, Jan. '45.  
 Lennox, William G., and Collins, A. L.; Intelligence of Normal and Epileptic Twins, 764, May '45.  
 Lewis, Aubrey; Psychiatric Investigation in Britain, 486, Jan. '45.  
 Lewis, Nolan D. C.; General Clinical Psychiatry, Psychosomatic Medicine and Psychosurgery, 521, Jan. '45.  
 Lindemann, Erich; Symptomatology and Management of Acute Grief, 141, Sept. '44.  
 Lipschutz, Louis, and Rosen, Rebecca; A Mental Hygiene Program for the Military Hospital, 614, Mar. '45.  
 Loftus, Thomas A., Gold, Harry, and Diethelm, Oskar; Cardiac Changes in the Presence of Intense Emotion (Case Report), 697, Mar. '45.  
 Lowrey, Lawson G.; Psychiatry for Children, 375, Nov. '44.  
 Lynch, Roland J.: *See* Kaplan, Harold M., jt. auth.

## Mc

- McElroy, Robert B.; Psychoneuroses, Combat-Anxiety Type, 517, Jan. '45.  
 McIntire, Ross T.; Psychiatry and the U. S. Navy, 717, May '45.  
 McKenna, Elisabeth: *See* Pollak, Otakar J., jt. auth.

## M

- Malamud, N.: *See* Waggoner, R. W., jt. auth.  
 Masserman, Jules H.; Neurosis and Alcohol, 389, Nov. '44.  
 Meyer, Adolf; Revaluation of Benjamin Rush, 433, Jan. '45.  
 Michaels, Joseph J., and Secunda, Lazarus; The Relationship of Neurotic Traits to the Encephalogram in Children with Behavior Disorders, 410, Nov. '44.  
 Miller, Milton L.; Aftermath of Operational Fatigue in Combat Aircrews, 325, Nov. '44.  
 Minski, Louis; War Neuroses, 600, Mar. '45.  
 Murphy, Francis E.: *See* Rosanoff, William R., jt. auth.  
 Myerson, Abraham; The Society Anxiety Neurosis, its possible Relationship to Schizophrenia, 149, Sept. '44.

## N

- Newman, Sidney H.: *See* Felix, Robert H., jt. auth.

## O

- Oberndorf, C. P.; The Nature of Psychogenic Cure, 91, July '44.  
 O'Connell, Wililam J.: *See* Heldt, Thomas J., jt. auth.  
 Overholser, Winfred; Military, Administrative and Forensic Psychiatry, 541, Jan. '45.  
 Owen, Trevor; The Medical View of the Menopause, 756, May '45.

## P

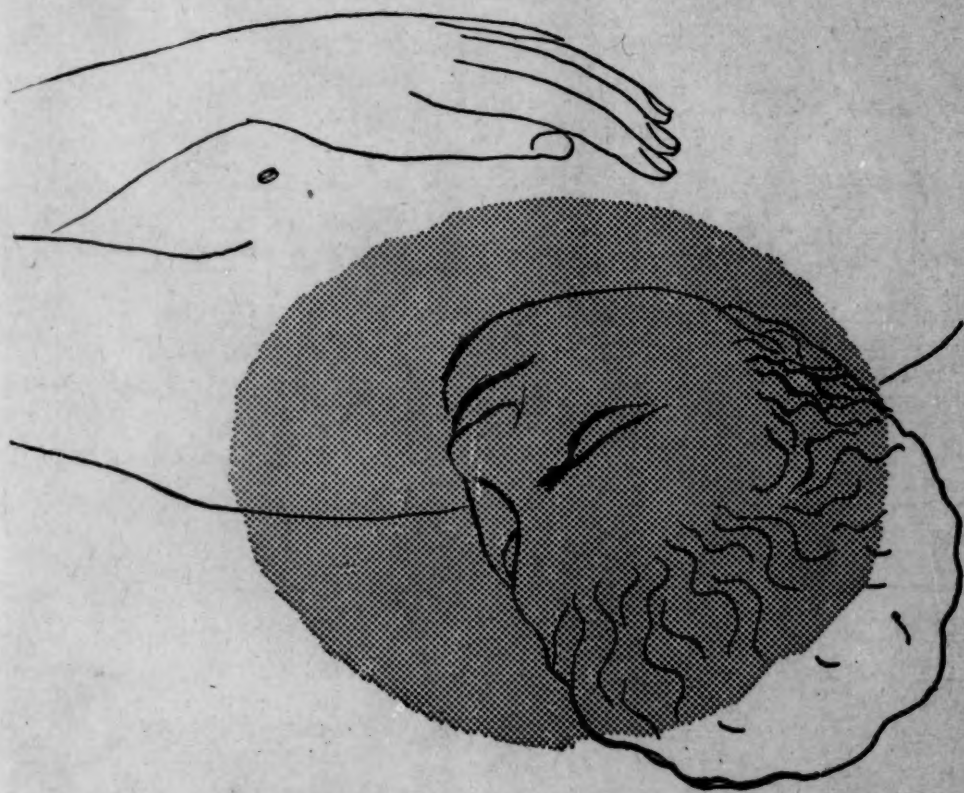
- Pacella, Bernard L., and Barrera, S. E.; Spontaneous Convulsions following Convulsive Shock Therapy, 783, May '45.  
 Pearson, Grosvenor B., and Schultz, Kathryn L.; Psychiatric Internship, 793, May '45.  
 Penfield, Wilder: *See* Childe, Arthur E., jt. auth.  
 Penrose, L. S.; Psychotic Profiles and Sex Profiles shown by a Test Battery, 810, May '45.  
 Pollak, Otakar J., and McKenna, Elisabeth; Tattooed Psychotic Patients, 673, Mar. '45.  
 Pollock, Horatio M.; Mental Disease among Defectives, 361, Nov. '44.  
 Powdermaker, Florence; Review of Cases at Merchant Marine Rest Centers, 650, Mar. '45.  
 Proctor, Lorne D., and Goodwin, John E.; Clinical and Electro-Physiological Observations following Electroshock, 797, May '45.

## R

- Raaf, John: *See* Dow, Robert S., jt. auth.  
 Raines, G. N., and Kolb, L. C.; Treatment of Combat Induced Emotional Disorders in a General Hospital within the Continental Limits, 331, Nov. '44.  
 Raphael Theophile: *See* Himler, Leonard E., jt. auth.  
 Rees, J. R.; Psychiatry in the British Army, 20, July '44.

- Rennie, Thomas A. C.; *Psychiatric Rehabilitation Therapy*, 476, Jan. '45.
- Rivers, Thurston D.: *See* Bond, Earl D., jt. auth.
- Rome, Howard P.; *Military Group Psychotherapy*, 494, Jan. '45.
- Rosanoff, William R., and Murphy, Francis E.; *The Basal Metabolic Rate, Fasting Blood Sugar, Glucose Tolerance, and Size of the Sella Turcica in Homosexuals*, 97, July '44.
- Roseman, Ephraim; *The Epileptic in the Army*, 349, Nov. '44.
- Rosen, Rebecca: *See* Lipschutz, Louis S., jt. auth.
- Rosenberg, Ralph; *Heredity in the Functional Psychoses*, 157, Sept. '44.
- Ross, W. D.; *A Quantitative Use of the Rorschach Method*, 100, July '44.
- Rotterman, William, and Goldstein, H. H.; *Group Analysis Utilizing the Harrower-Erickson (Rorschach) Test*, 501, Jan. '45.
- Rotterman, William: *See* Goldstein, H. H., jt. auth.
- Russell, William L.; *The Care of the Mentally Ill in New York*, 184, Sept. '44.
- Ryan, V. G.: *See* Blain, Daniel, jt. auth.
- Rymer, Charles A.; *Psychiatric Education*, 545, Jan. '45.
- S
- Schnaper, Nathan: *See* Fox, Henry M., jt. auth.
- Schultz, Kathryn L.: *See* Pearson, Grosvenor B., jt. auth.
- Schwartz, Louis A.; *Group Psychotherapy in the War Neuroses*, 498, Jan. '45.
- Secunda, Lazarus: *See* Michaels, Joseph J., jt. auth.
- Sherman, Stephen H.: *See* Heath, Robert G., jt. auth.
- Shryock, Richard H.; *The Psychiatry of Benjamin Rush*, 429, Jan. '45.
- Silva, A. C. Pacheco e; *Review of Psychiatric Progress in Ibero-America*, 113, July '44.
- Simpson, J. F.: *See* Wellman, Marvin, jt. auth.
- Smith, Lauren H.; *Edward A. Strecker (President 1943-1944), Biographical Sketch*, 9, July '44.
- Smith, Lauren H.; *Treatment Activities in War Psychiatry*, 303, Nov. '44.
- Solomon, Charles I., Brown, Warren T., and Deutscher, Max; *Electroencephalography in Behavior Problem Children*, 51, July '44.
- Solomon, Harry C.; *Neurosyphilis*, 526, Jan. '45.
- Solomon, Philip, Brown, Meyer, and Jones, M. R.; *Neuropsychiatry in the U. S. Marine Corps, Women's Reserve*, 643, Mar. '45.
- Southard, C. G., and Hurley, J. R.; *Selective Service Violators*, 661, Mar. '45.
- Spiegel, Herbert X.; *Preventive Psychiatry with Combat Troops*, 310, Nov. '44.
- Spiegel, John P.: *See* Grinker, Roy R., jt. auth.
- Stearns, A. Warren; *Isaac Ray, Psychiatrist and Pioneer in Forensic Psychiatry*, 573, Mar. '45; *Photograph* 583, Mar. '45.
- Stevenson, George S.; *Psychiatric Nursing, Occupational Therapy and Social Service*, 539, Jan. '45.
- Strauss, Hans; *Clinical and Electroencephalographic Studies*, 42, July '44.
- Strecker, Edward A.; *Presidential Address (1943-1944)*, 1, July '44.
- Sulzbach, Wolfgang: *See* Tillotson, Kenneth J., jt. auth.
- T
- Teicher, Joseph D.; *Psychopathology of a Selected Population of Naval Offenders*, 726, May '45.
- Thompson, George N.; *Psychiatric Aspects of Prostitution Control*, 677, Mar. '45.
- Thompson, George N.: *See* Tietz, Esther B., jt. auth.
- Thorne, Frederick C.; *Startle Neurosis*, 105, July '44.
- Tietz, Esther B., Thompson, George N., Van Harreveld, A., and Wiersma, C. A. G.; *Electronarcosis, A Therapy in Schizophrenia*, 821, May '45.
- Tillim, Sidney J.; *Acute Alcoholism treated with Insulin*, 396, Nov. '44.
- Tillotson, Kenneth J., and Sulzbach, Wolfgang; *A Comparative Study and Evaluation of Electric Shock Therapy in Depressive States*, 455, Jan. '45.
- U
- Ulett, George: *See* Dow, Robert St., jt. auth.
- V
- Van Harreneld, A.: *See* Tietz, Esther B., jt. auth.
- W
- Waggoner, R. W., and Malamud, N.; *Non-Structural Cerebrovascular Disease as the Source of Psychiatric Symptoms*, 400, Nov. '44.
- Wall, James H.; *The Psychiatric Problem of Suicide*, 404, Nov. '44.
- Watts, James W.: *See* Freeman, Walter, jt. auth.
- Wellman, Marvin, and Simpson, J. F.; *Psychiatric Casualties in the Royal Canadian Navy*, 625, Mar. '45.
- Wells, F. L.; *Psychometrics*, 550, Jan. '45.
- Whitehorn, John C.; *Biochemistry, Endocrinology and Neuropathology*, 533, Jan. '45.
- Wiersma, C. A. G.: *See* Tietz, Esther B., jt. auth.
- Wigton, Robert S.: *See* Farnsworth, Dana L., jt. auth.
- Wortis, Joseph; *Freudianism and the Psychoanalytic Tradition*, 814, May '45.

# Convulsion Cushion



Fractures and dislocations, injuries once thought to be an unfortunate but inescapable sequence of shock therapy, can now be virtually eliminated. The agent to accomplish this is Intocostrin.

Intocostrin is a purified extract of curare, stable, uniform in action, phar-

macologically standardized, free from the undesirable side effects of the crude drug. Administered intravenously about two minutes before the induction of shock, the relaxing action of the Intocostrin coincides advantageously with the period of maximum muscle stress.

For information write to Professional Service  
Dept., 745 Fifth Avenue, New York 22, N. Y.

## SQUIBB

MANUFACTURING CHEMISTS TO THE MEDICAL PROFESSION SINCE 1858

## Intocostrin

REGISTERED



# A FIFTH FREEDOM

---

THE AMERICAN WAY OF LIFE has always allowed a man to give his boy or girl the advantages of a superior education if he saw fit. This freedom of choice has been an important factor in many families. For some it has meant the choice of a private school where classes are smaller and instructors are more expert. For others it has meant sending the child to a college or university of high standards.

In these days of drift toward the socialization of many American institutions, this freedom of choice in education should be reaffirmed.

For the boy or girl who is slow in academic achievement, this freedom means the privilege of attending a school where individual needs can be met. For the child with normal intelligence, but mild emotional maladjustment, this freedom means the selection of a school where staff is specially trained and courses are founded on psychiatric principles.

HELENA T. DEVEREUX  
*Director*

JOHN M. BARCLAY  
*Registrar*

  
( INCORPORATED NOT FOR PROFIT )

EASTERN SCHOOLS, address, Devon, Pennsylvania  
WEST COAST SCHOOLS, address, Santa Barbara, California

